Supplementary Information Section

Hydrogen exchange reveals Hsp104 architecture, structural dynamics, and energetics in physiological solution

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Methods

The HX MS experiment. In this work, we expose Hsp104 preparations to hydrogen to deuterium (H to D) exchange for increasing times in D_2O buffer at physiological pH and analyze timed samples for carried D. To achieve structural resolution, we utilize a fragment separation analysis (1-4).

In a typical HX experiment, 20 μM Hsp104 (in monomer) was incubated under the desired buffer conditions at 30°C for 5 min before H to D labeling. Labeling was initiated by 10-fold dilution into the corresponding D_2O buffer. After varying HX labeling times, the HX reaction was quenched by addition of ice-cold quench buffer of equal volume to reach a final pH of 2.5 and 1.5 M GdmCl, 0°C. The quenched samples were proteolyzed into small fragments by brief passage through an immobilized pepsin column, the fragments were separated roughly by fast HPLC, and the HPLC eluant was electrosprayed continuously into a mass spectrometer which repeatedly scans the incoming peptide ions at the rate of ~2 scans/sec. Analysis of the extensive MS data used the ExMS program (5) to search through the ~1000 high resolution scans taken during the HPLC elution. ExMS finds and verifies the isotopic mass envelopes of hundreds of variably deuterated peptides at each HX time point and determines the accumulated deuterons on each fragment in terms of the peptide ∆mass. HX time points shorter than 10 s were collected using a Biologic stopped-flow SFM4 device as described in (6, 7).

Initially, Hsp104 was buffer exchanged into H_2O-buffer containing 20 mM HEPES, 10 mM $MgCl_2$, 2 mM DTT, pH 7.45 with [KCl] with 750 mM KCl to produce the monomer state, 10 mM KCl for the apohexamer state, and 150 mM KCl for hexameric states. D_2O buffer used for labeling at pD 7.84 contains the same components as the H_2O-buffer. For H to D labeling at pD 8.9, HEPES was replaced with 20 mM bicine and the buffer pD was adjusted so that the pD reached 8.9 after 9 to 1 mixing with H_2O-buffer . For HX in the presence of nucleotides, both H_2O-buffer and D_2O-buffer were supplemented with 5 mM ADP, AMPPNP, or ATPγS. Because the ATPγS state forms slowly, the protein was always preincubated for 1 hr before measuring HX. Under ATP turnover conditions, an ATP regenerating system was used (10 mM ATP, 10 mM phosphoenolpyruvate, 20 units/ml of pyruvate kinase).

The analysis described here was based on 352 unique peptides (Fig. 1C) that passed the ExMS2 autochecks and were consistently found by ExMS under all of the conditions studied with good signal/noise, no spurious m/z peaks, and consistency with overlapping peptides. The comparison of overlapping fragments provides many internal consistency checks and allows subpeptide resolution. To achieve even higher resolution we used the HDsite program (8) which formally compares HX data from many overlapping peptides. HDsite was operated in the centroid mode to increase fitting reliability. Calculated HX rates are plotted against the Hsp104 sequence in Fig. 3. HDsite analysis can in principle resolve HX rates to individual residues but limited peptide overlap often limits attainable resolution to short sets of neighboring “switchable” residues.

HX MS data analysis. We used an upgraded version (ExMS2, to be published) of the ExMS software (5) to identify deuterated peptides in the MS scans. Thanks to the high mass accuracy and scan stability of the ThermoFisher Exactive Plus orbitrap mass spectrometer, we were able to set a very narrow mass tolerance range of 2 ppm in searching for the individual m/z peaks of each peptide. This is critical to minimize false peptide identification for the large Hsp104 protein. Peptides that passed the multiple ExMS2 autocheck criteria were subject to further manual inspection.

HX MS data interpretation. HX behavior can be understood in terms of the view originally suggested by Linderstrøm-Lang in his pioneering studies of protein hydrogen exchange which first revealed the dynamic character of protein structure (9). Lang visualized the HX process as in Eqs. 1-3 (10-12).

$$\text{closed} \underset{k_{cl}}{\overset{k_{op}}{\rightleftarrows}} \text{open} \xrightarrow{k_{ch}} \text{exchanged} \qquad \text{Eq. 1}$$

$$k_{ex} = k_{op}\, k_{ch}/(k_{op} + k_{cl} + k_{ch}) \qquad \text{Eq. 2}$$

$\Delta G_{op} = -RT \ln K_{op} = -RT \ln (k_{op}/k_{cl}) = -RT \ln (1/(Pf - 1)$ Eq. 3

In this view, amide NH hydrogens protected by H-bonding ("closed") can only exchange when the protecting H-bond is separated in a dynamic "opening" reaction, during which time they exchange at the free peptide characteristic rate (k_{ch}) (13, 14). We now know that HX opening can occur either by way of cooperative multi-site unfolding or by more local site by site fluctuations (15).

Cooperative unfolding reactions, characteristic for low-stability elements, expose a whole set of amides to concurrent exchange. If refolding is relatively slow ($k_{cl} << k_{ch}$), that set of amides will all exchange at the same single exponential rate, equal to the segment unfolding rate (k_{op}), termed EX1 or monomolecular exchange. The mass spectrum will appear bimodal if the MS envelopes for the exchanged (heavier, deuterated) and the not-yet-exchanged (lighter) populations are sufficiently separate, as in Fig. 2C. The exchanged population fraction grows in time at the exact expense of the not-yet-exchanged population fraction.

Alternatively, refolding may be relatively fast ($k_{cl} >> k_{ch}$). In this case exchange occurs in the EX2 limit (bimolecular exchange with rate dependent on pH). The HX rate is then given by k_{ch} multiplied down by the equilibrium fraction of time open (Eq. 2). Many sites exchange with the same protection factor ($Pf = k_{ch}/k_{ex}$), given by comparing the measured HX rate curve (k_{ex}) with the reference rate curve known for equivalent unstructured sites (13, 14). The mass centroid plot is parallel to the reference curve, and the offset on the time axis represents the common equilibrium protection factor. In this case, Pf approximates the fraction of time open, therefore the equilibrium constant for unfolding and leads to the free energy that stabilizes against the unfolding reaction (Eq. 3).

A different situation arises when the HX-determining opening reaction involves small residue-level distortions, called local fluctuations, rather than a cooperative multi-residue unfolding. Near neighbor sites can then exchange at very different rates. The mass centroid plot can spread over a wide HX time range reflecting the range of HX rates among the various amides in that peptide (e.g., Fig. 2D). This mode tends to dominate when the segment is flexible or when HX due to any competing segmental unfolding reaction is slower. Local fluctuations reclose very rapidly (16) and so always show EX2 character. In this case the unimodal mass envelope simply slides to higher mass in time as the varied sites exchange, as in Fig. 2A. Finally, any given segment may display both bimodal EX1 and sliding EX2 behaviors if its various amide sites exchange through these two different opening modes. The time-dependent mass spectra and mass centroid plots usually make these alternative behaviors and the dynamic information they provide easily recognizable.

The connection with structural energetics. Eq. 3 connects measured HX rates to detailed structural energetics. HX rates relate to the stability of local structure against the opening reactions that support exchange. Local destabilization will increase unfolding and produce faster HX, and the reverse. Thus HX is able to qualitatively distinguish energetically uphill and downhill changes. The quantitative validity of Eq. 3 is less clear. It seems likely to be more correct for unfolding reactions but less so for local fluctuations where the open state is locally constrained and may be slower than the unstructured reference k_{ch} value, by perhaps 10-fold (17). For example, the current results find several cases with apparent Pf in the low range of 10 or so even though no protecting H-bonds appear to be present. Further studies like the current one can contribute to this important question.

References

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SI Figures

Fig. SI 1: Mass centroid plots for the 352 peptides used in this study are at the end of this document.

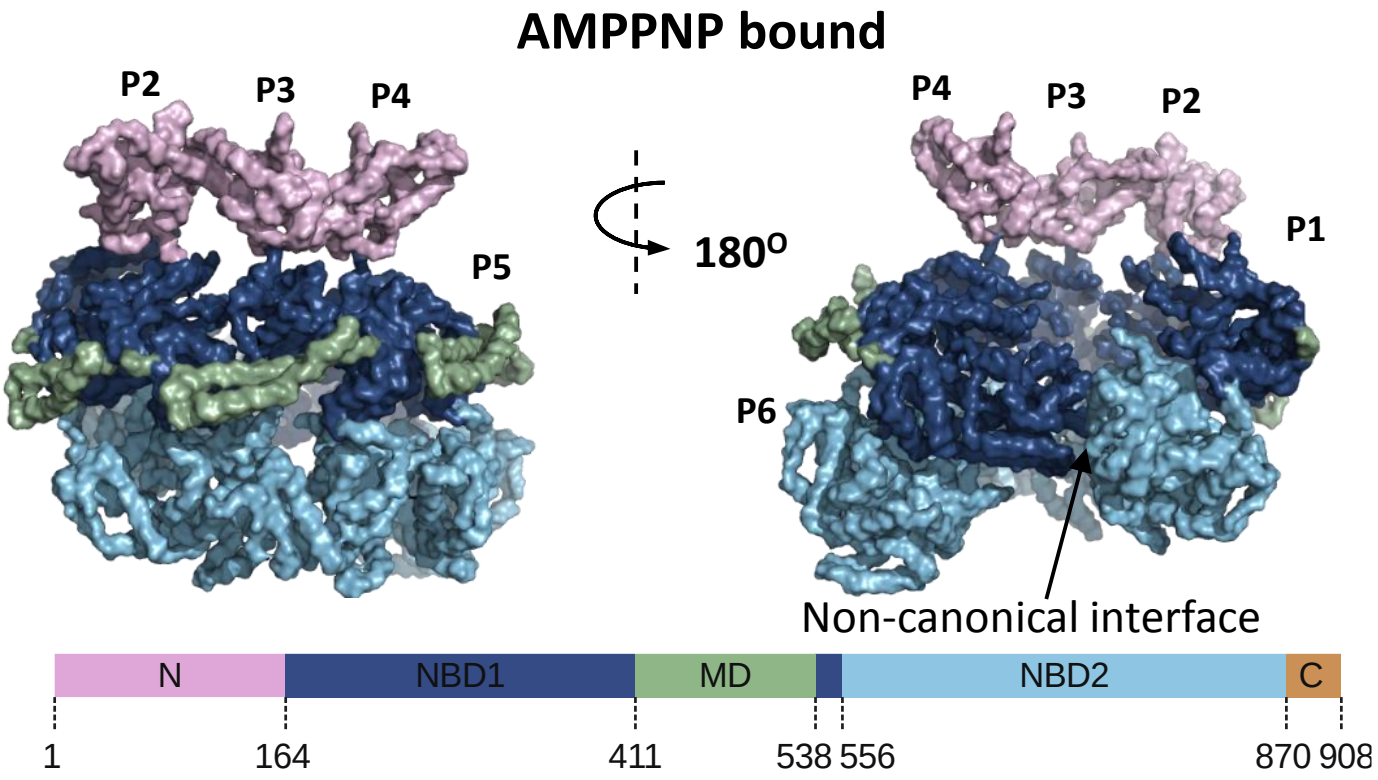
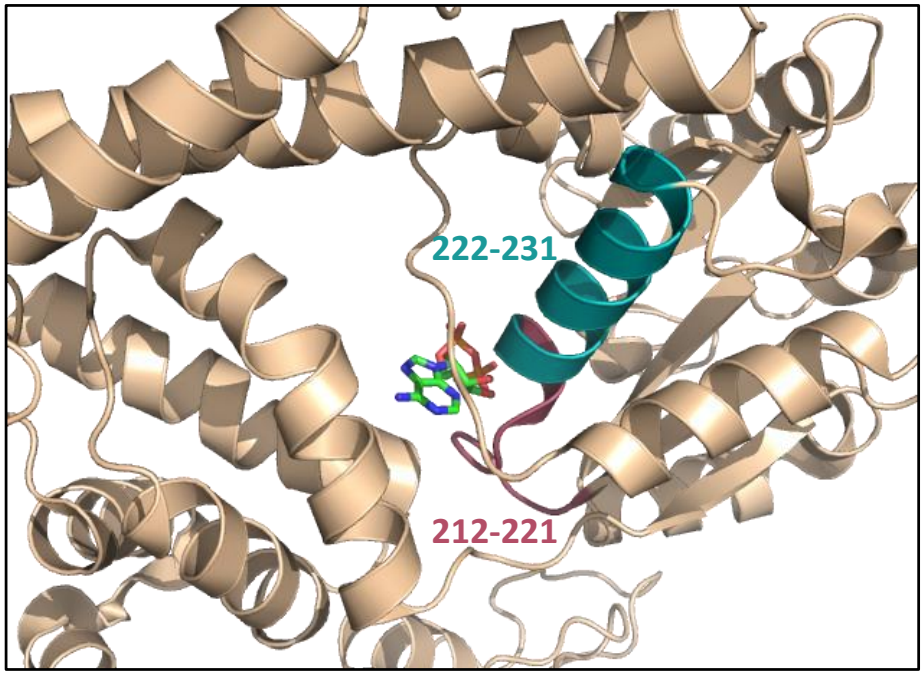
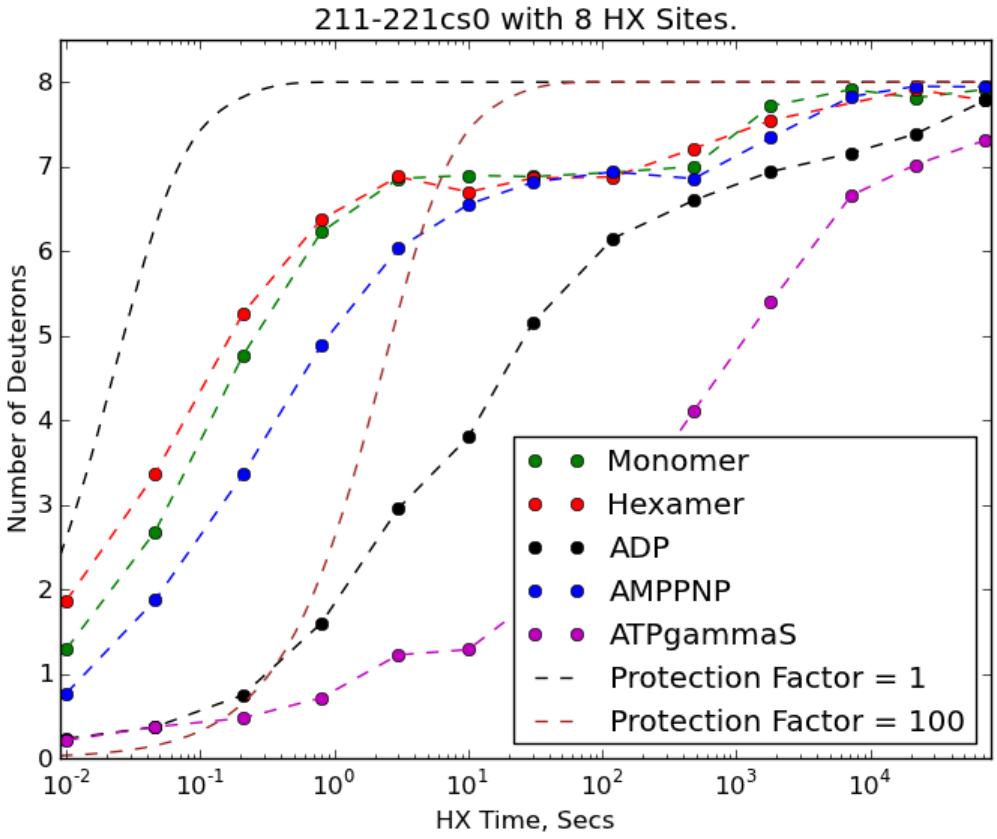


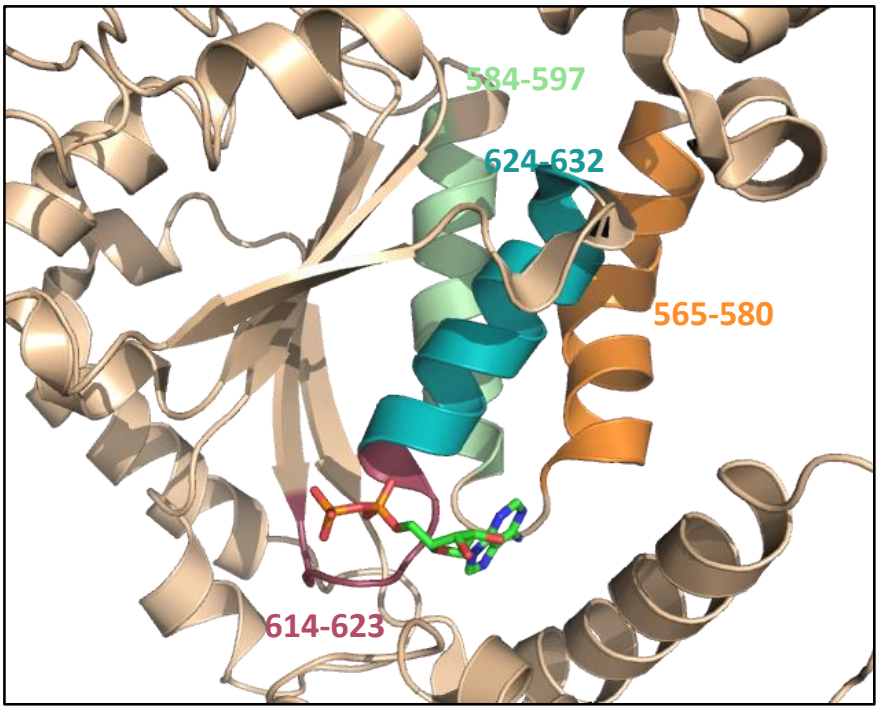
Fig. SI 2. Cryo-EM structures of Hsp104 with AMPPNP (5KNE) bound. The AMPPNP structure is color coded as in the bar below to indicate the different protomer domains. The hexamer structure is asymmetric with two kinds of interfaces. The canonical interfaces (left) all have NBD1 to NBD1 and NBD2 to NBD2 contacts from P1 around to P6. The non-canonical interface (right) has offset NBD1 to NBD2 contacts from P6 to P1 with the other two faces exposed to solvent. Peptides that occupy these hetero-positions in the AMPPNP state (Fig. 4, main text) and in the ADP state (Fig. SI 6) exchange at different rates and display bimodal HX MS profiles.

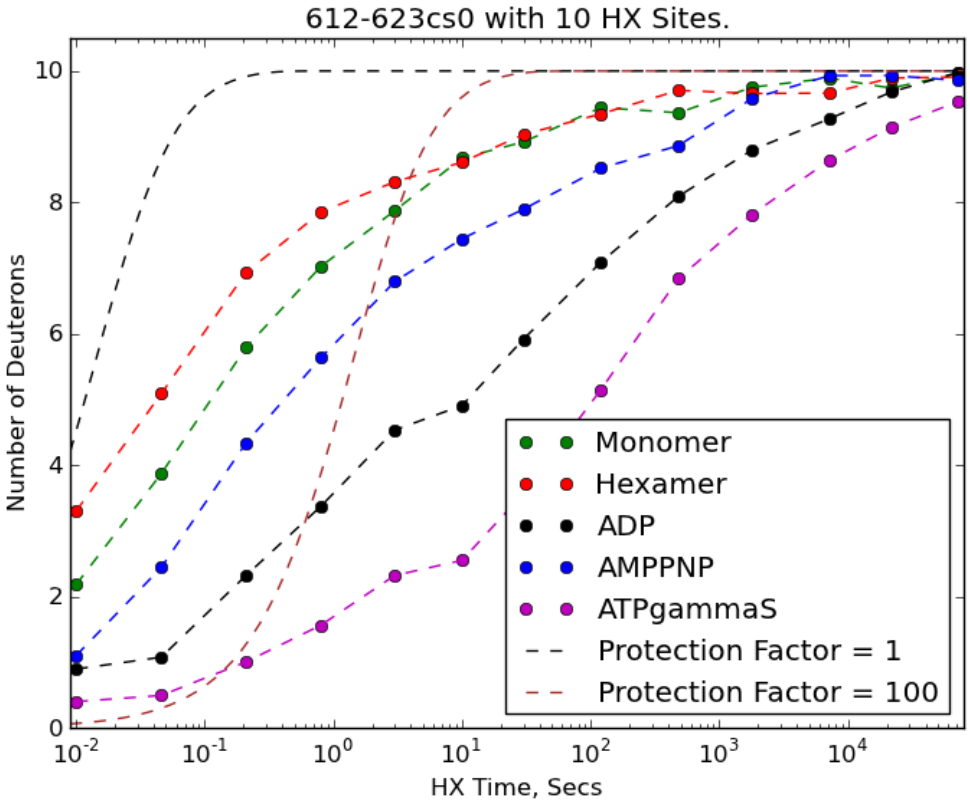
SI 3A


222-231
212-221

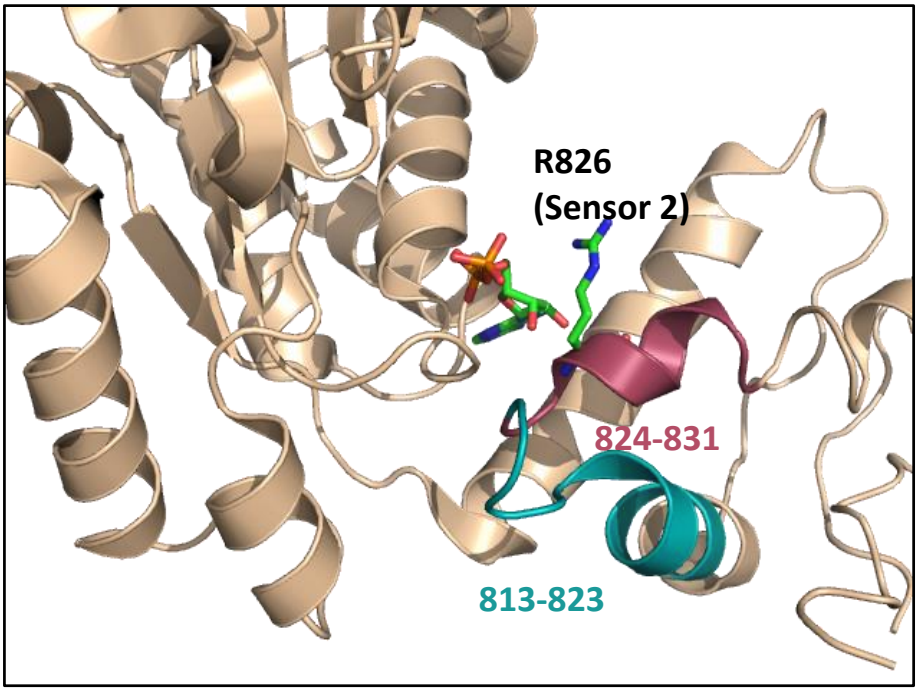

211-221cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

SI 3B


584-597
624-632
565-580
614-623


612-623cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

SI 3C



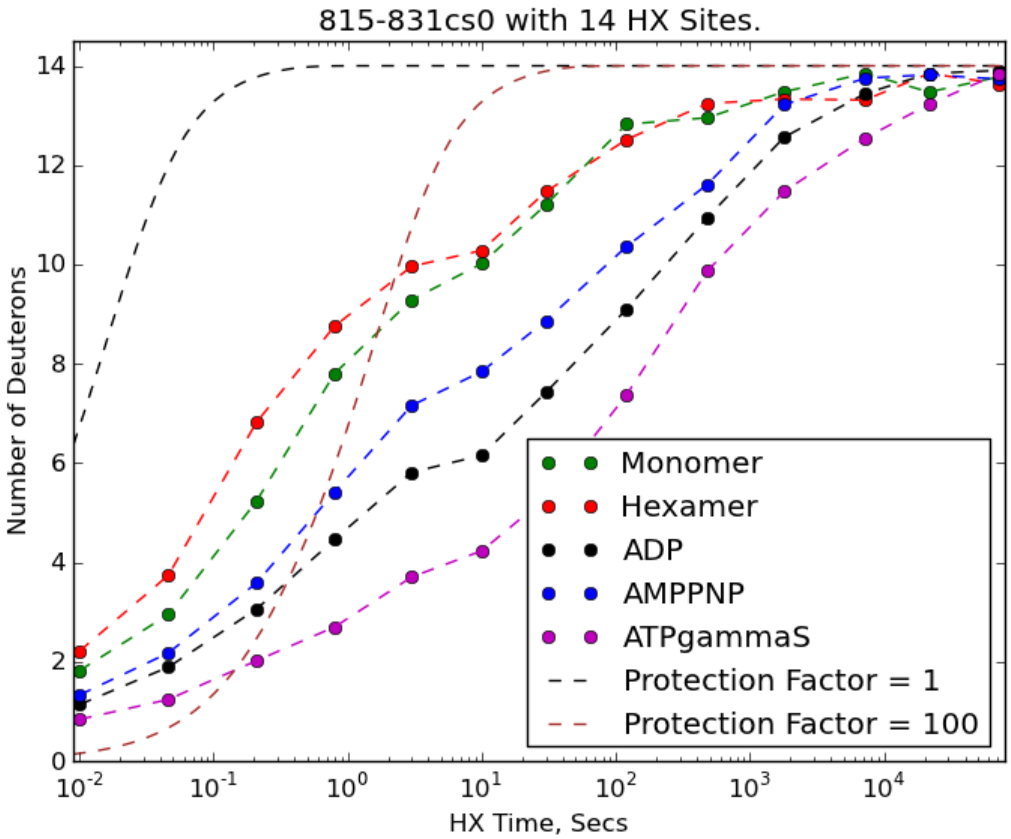
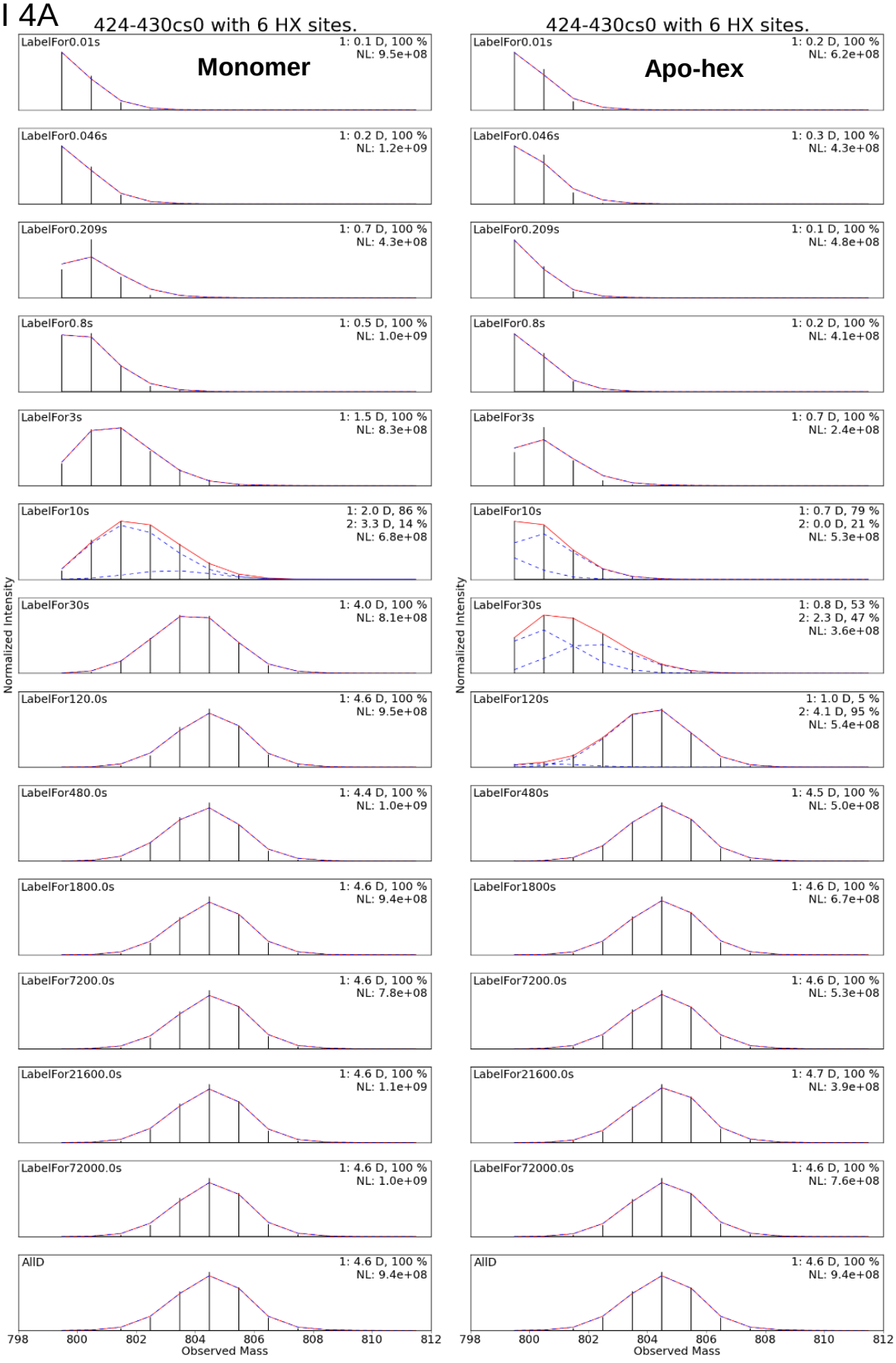


Fig. SI 3. Local and non-local effects. Relative to the monomer, hexamer formation slightly destabilizes (faster HX) Walker A in NBD1 (A) and in NBD2 (B) and sensor 2 in NBD2 (C), even though they are not at the interprotomer surface. The binding of different nucleotides increasingly stabilizes them in the order ADP<AMPPNP<ATPγS. ADP is represented in stick.

SI 4A


424-430cs0 with 6 HX sites.
Monomer
LabelFor0.01s
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NL: 9.5e+08
LabelFor0.046s
1: 0.2 D, 100 %
NL: 1.2e+09
LabelFor0.209s
1: 0.7 D, 100 %
NL: 4.3e+08
LabelFor0.8s
1: 0.5 D, 100 %
NL: 1.0e+09
LabelFor3s
1: 1.5 D, 100 %
NL: 8.3e+08
LabelFor10s
1: 2.0 D, 86 %
2: 3.3 D, 14 %
NL: 6.8e+08
LabelFor30s
1: 4.0 D, 100 %
NL: 8.1e+08
LabelFor120.0s
1: 4.6 D, 100 %
NL: 9.5e+08
LabelFor480.0s
1: 4.4 D, 100 %
NL: 1.0e+09
LabelFor1800.0s
1: 4.6 D, 100 %
NL: 9.4e+08
LabelFor7200.0s
1: 4.6 D, 100 %
NL: 7.8e+08
LabelFor21600.0s
1: 4.6 D, 100 %
NL: 1.1e+09
LabelFor72000.0s
1: 4.6 D, 100 %
NL: 1.0e+09
AllD
1: 4.6 D, 100 %
NL: 9.4e+08
Normalized Intensity
798
800
802
804
806
808
810
812
Observed Mass
424-430cs0 with 6 HX sites.
Apo-hex
LabelFor0.01s
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NL: 6.2e+08
LabelFor0.046s
1: 0.3 D, 100 %
NL: 4.3e+08
LabelFor0.209s
1: 0.1 D, 100 %
NL: 4.8e+08
LabelFor0.8s
1: 0.2 D, 100 %
NL: 4.1e+08
LabelFor3s
1: 0.7 D, 100 %
NL: 2.4e+08
LabelFor10s
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2: 0.0 D, 21 %
NL: 5.3e+08
LabelFor30s
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2: 2.3 D, 47 %
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LabelFor120s
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2: 4.1 D, 95 %
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LabelFor480s
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NL: 5.0e+08
LabelFor1800s
1: 4.6 D, 100 %
NL: 6.7e+08
LabelFor7200.0s
1: 4.6 D, 100 %
NL: 5.3e+08
LabelFor21600.0s
1: 4.7 D, 100 %
NL: 3.9e+08
LabelFor72000.0s
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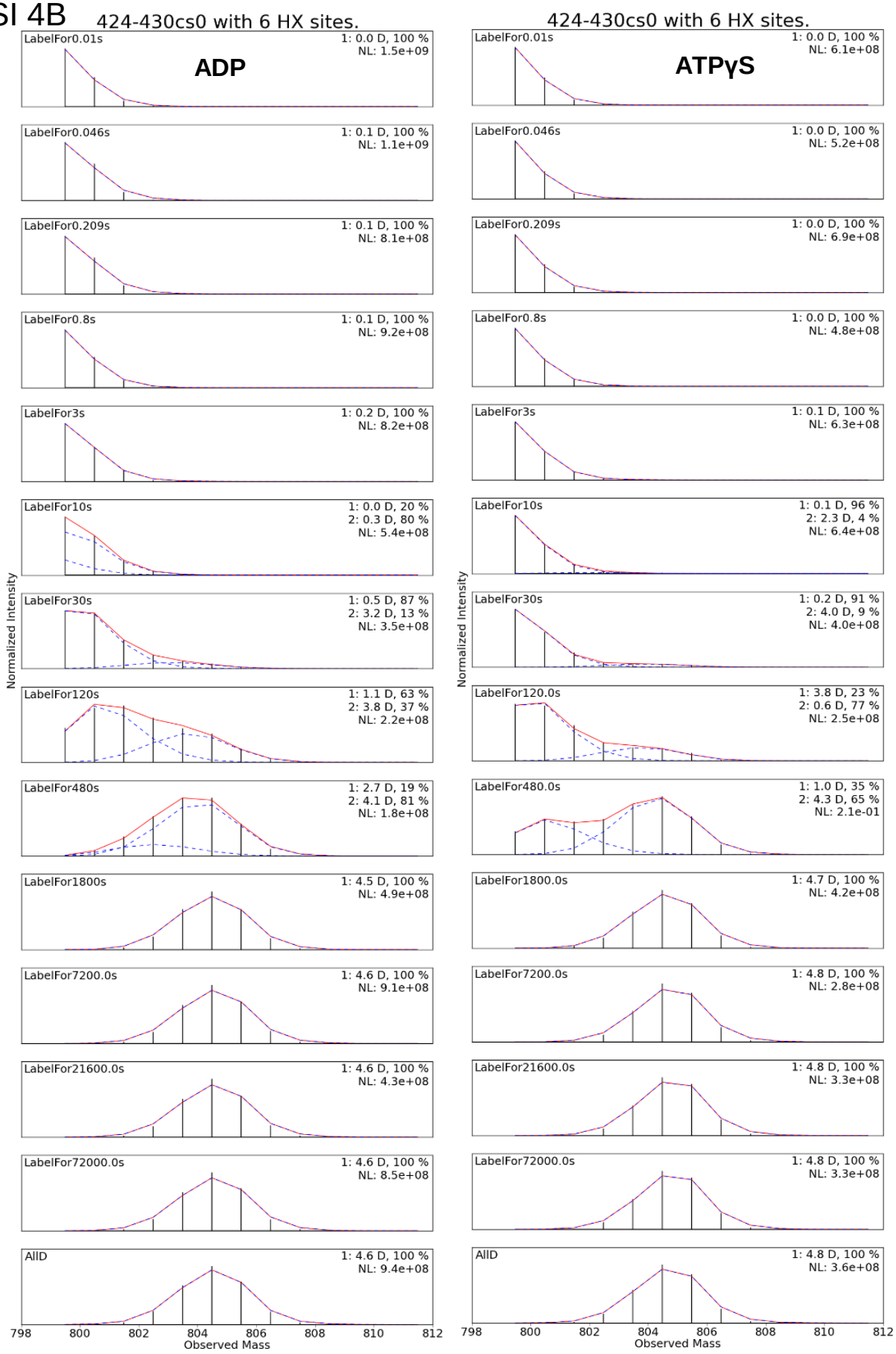
NL: 7.6e+08
AllD
1: 4.6 D, 100 %
NL: 9.4e+08
Normalized Intensity
798
800
802
804
806
808
810
812
Observed Mass

SI 4B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AllD
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Normalized Intensity
798
800
802
804
806
808
810
812
Observed Mass
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ATPγS
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NL: 6.9e+08
LabelFor0.8s
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LabelFor72000.0s
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AllD
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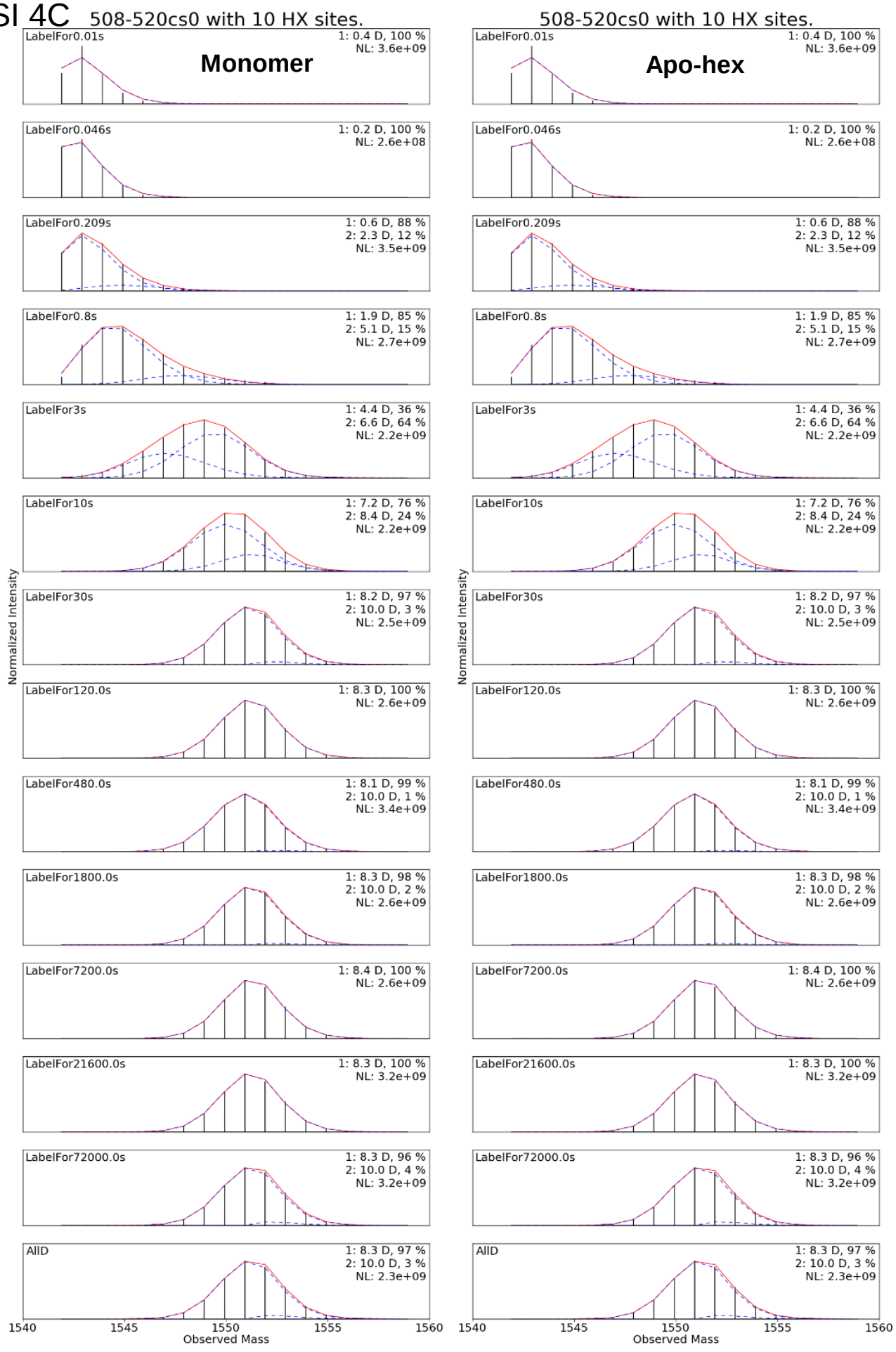
Normalized Intensity
798
800
802
804
806
808
810
812
Observed Mass

SI 4C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AllD
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2: 10.0 D, 3 %
NL: 2.3e+09
Normalized Intensity
1540
1545
1550
1555
1560
Observed Mass
508-520cs0 with 10 HX sites.
Apo-hex
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2: 10.0 D, 1 %
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NL: 2.6e+09
LabelFor7200.0s
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NL: 2.6e+09
LabelFor21600.0s
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LabelFor72000.0s
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NL: 3.2e+09
AllD
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Normalized Intensity
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1545
1550
1555
1560
Observed Mass

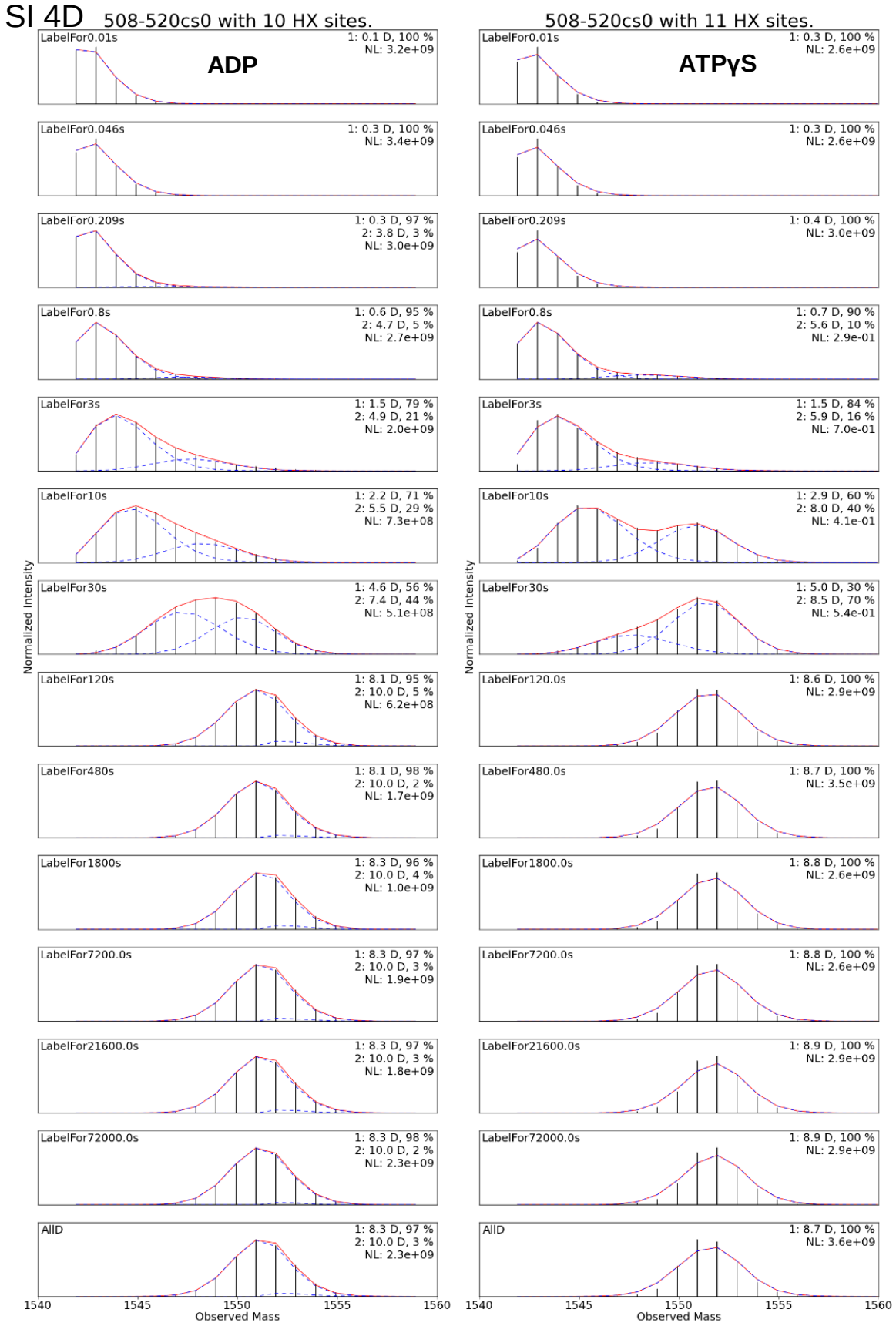


Fig. SI 4. EX1 peptides in the MD. MS plots for two M domain EX1 peptides, 424-430 in (A&B) and 508-520 in (C&D). For both, HX becomes progressively slower and bimodality more distinct in the progression from monomer to apohexamer to ADP to ATPγS.

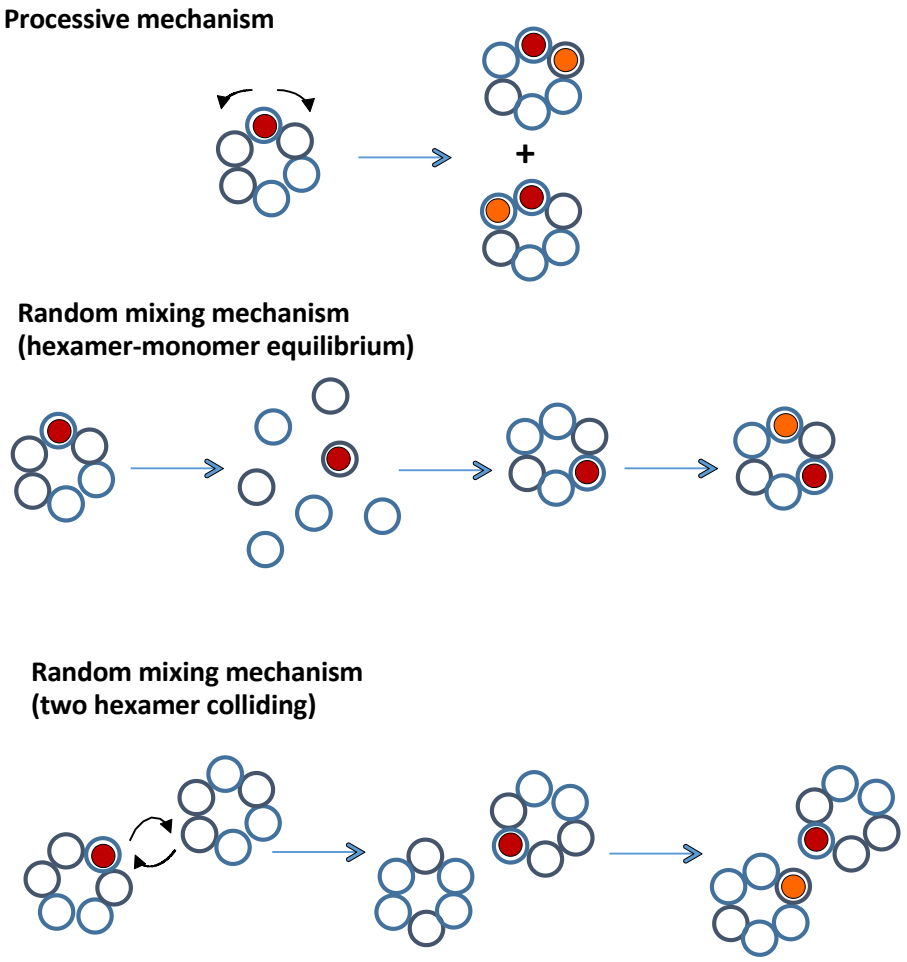


Fig. SI 5. The processive and random mixing models. These models were considered in Monte Carlo simulations to generate the slow protomer interchange process shown in main text Fig. 4D (AMPPNP). In the processive model, protomers exposed in the non-canonical interface interchange systematically with those from the canonical interface one position at a time. In the mixing models, the hexamer either fully dissociates and randomly reassembles or two hexamers collide and trade individual monomers. The HX data show that the protomers interchange on a long time scale and spend time in both the canonical and non-canonical interfaces but the detailed mechanisms pictured cannot be distinguished. With ATP cycling, a fast apparently functional 1 sec time scale interchange mechanism is observed.

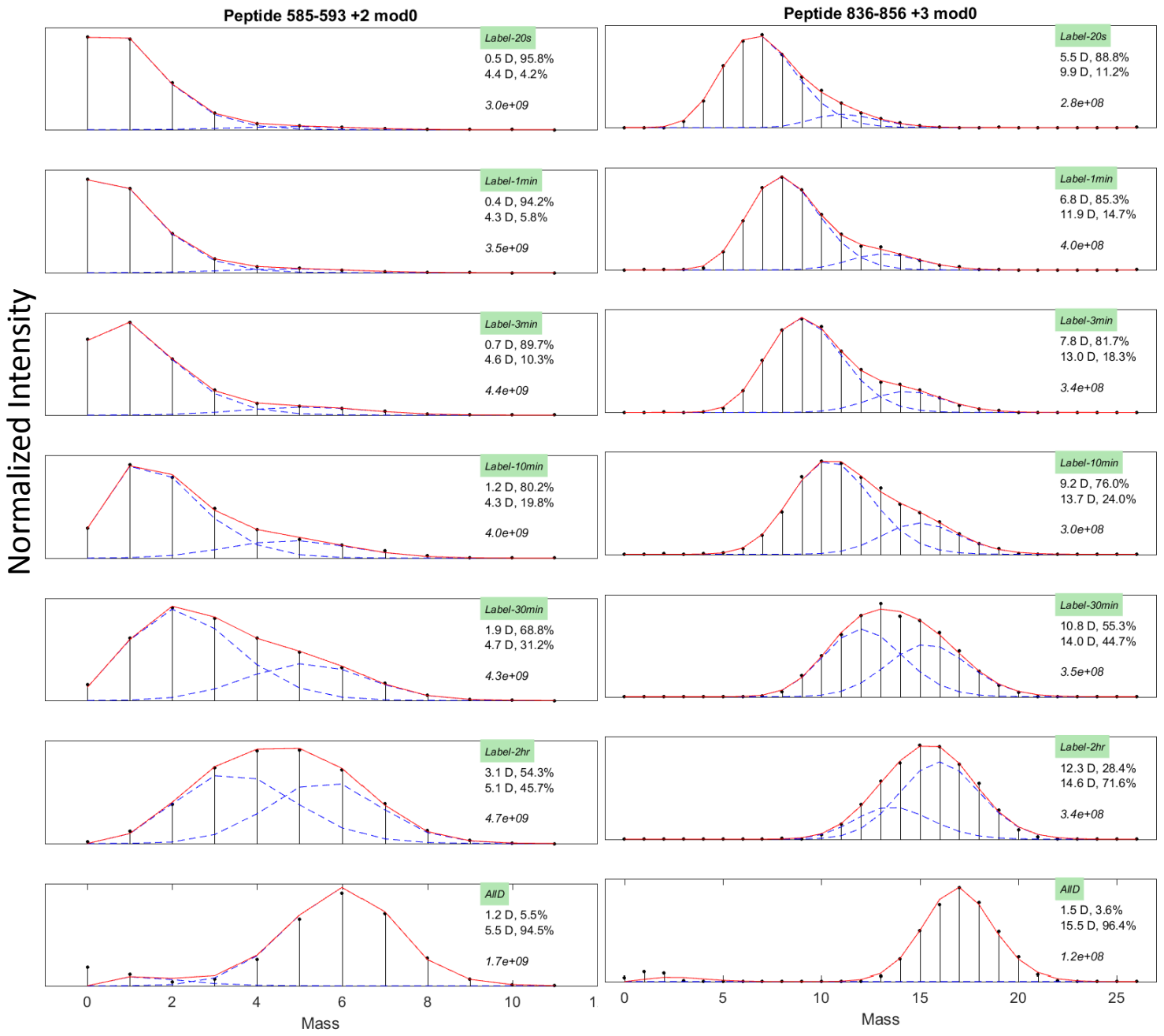


Fig. SI 6. Heterogeneous HX of non-canonical interface peptides in the ADP-bound state. Bimodal HX MS reveals faster and slower sub-populations in a 1:5 ratio as expected for the ADP-bound asymmetric spiraled hexamer, as for the AMPPNP state in main text Fig. 4. We used pD 8.9 (25°C, 150 mM KCl) to make HX faster in order to compete better with the slow non-functional interchange process that follows on a much longer time scale.

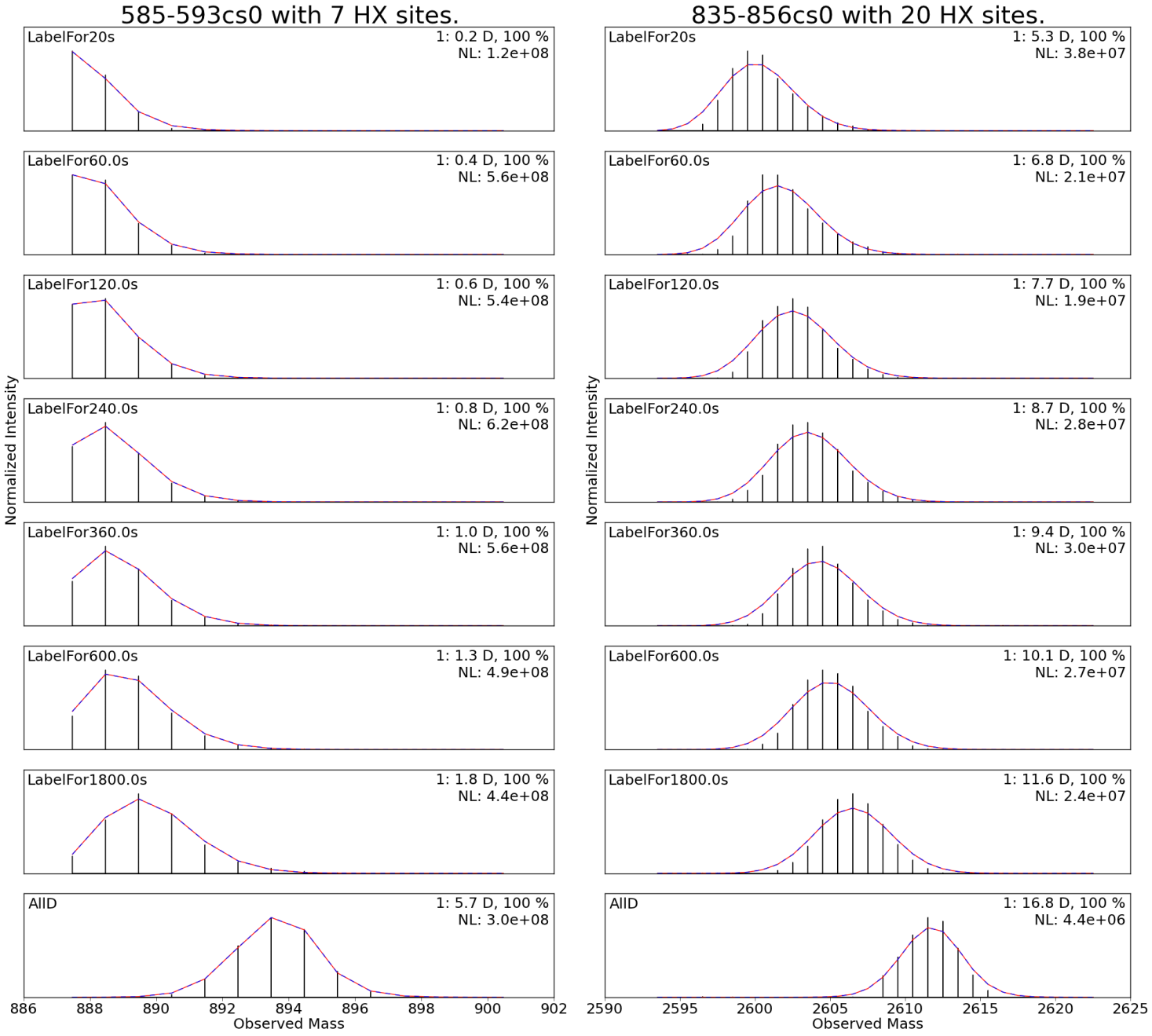
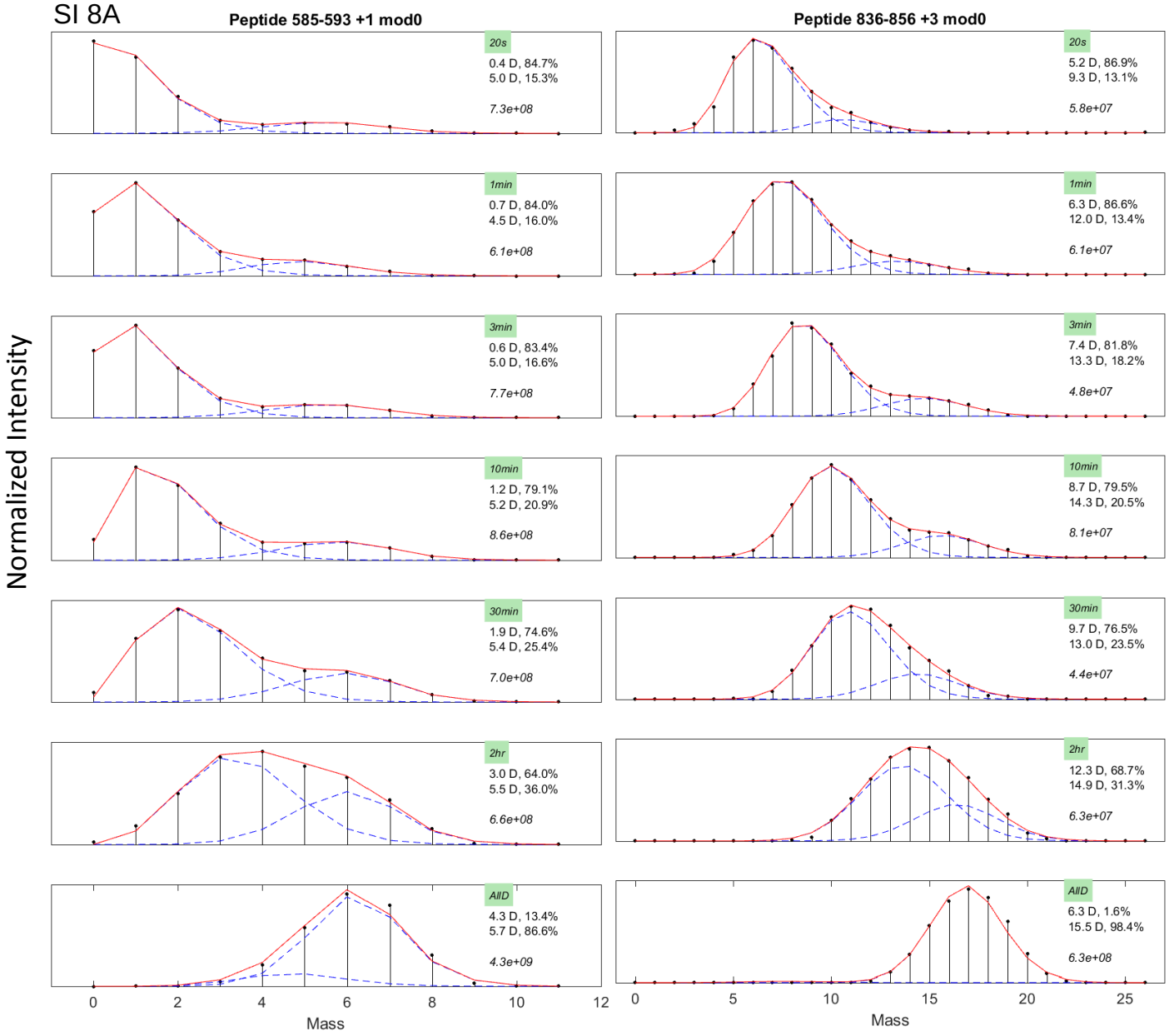


Fig. SI 7. Loss of bimodality due to loss of the non-canonical interface in the presence of ATPγS. The non-canonical interface is lost in the flat closed ATPγS state. Conditions are the same as for Fig. 4 except 5 mM ATPγS was used.

SI 8A


Peptide 585-593 +1 mod0
Peptide 836-856 +3 mod0
Normalized Intensity
20s
0.4 D, 84.7%
5.0 D, 15.3%
7.3e+08
20s
5.2 D, 86.9%
9.3 D, 13.1%
5.8e+07
1min
0.7 D, 84.0%
4.5 D, 16.0%
6.1e+08
1min
6.3 D, 86.6%
12.0 D, 13.4%
6.1e+07
3min
0.6 D, 83.4%
5.0 D, 16.6%
7.7e+08
3min
7.4 D, 81.8%
13.3 D, 18.2%
4.8e+07
10min
1.2 D, 79.1%
5.2 D, 20.9%
8.6e+08
10min
8.7 D, 79.5%
14.3 D, 20.5%
8.1e+07
30min
1.9 D, 74.6%
5.4 D, 25.4%
7.0e+08
30min
9.7 D, 76.5%
13.0 D, 23.5%
4.4e+07
2hr
3.0 D, 64.0%
5.5 D, 36.0%
6.6e+08
2hr
12.3 D, 68.7%
14.9 D, 31.3%
6.3e+07
AllD
4.3 D, 13.4%
5.7 D, 86.6%
4.3e+09
AllD
6.3 D, 1.6%
15.5 D, 98.4%
6.3e+08
0
2
4
6
8
10
12
Mass
0
5
10
15
20
25
Mass

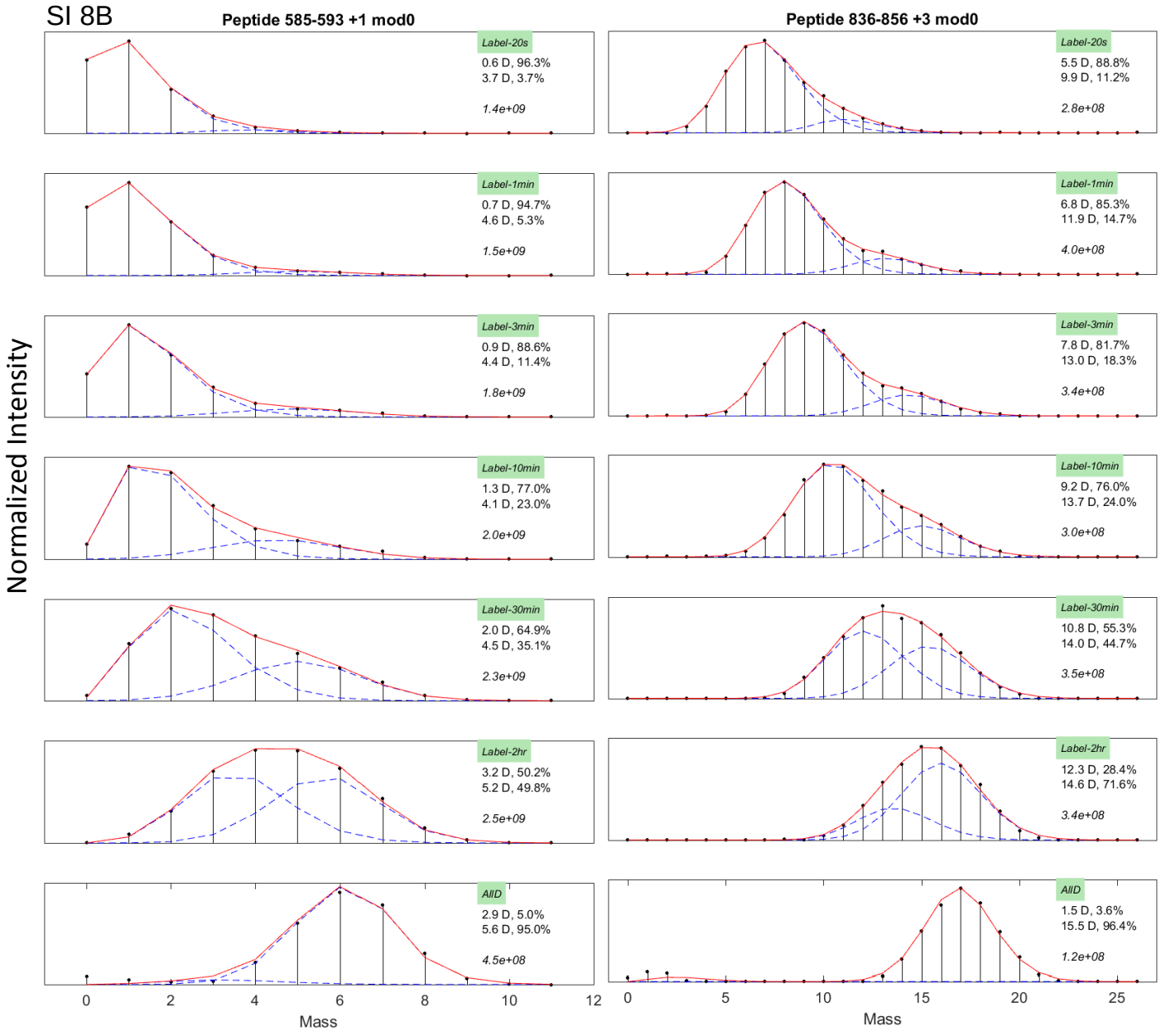


Fig. SI 8. Slow protomer interchange in the presence of low salt ([KCl] = 10 mM). MS spectra of the two heterogeneous exchanging peptides in the presence of AMPPNP (A) or ADP (B). The slow upsweep of the less protected fraction of these two heterogeneously exchanging peptides in the non-canonical interface is shown in main text Fig. 4. Low salt stabilizes protomer interaction and slows the later upsweep, indicating that the upsweep represents a slow non-functional protomer dissociation process.

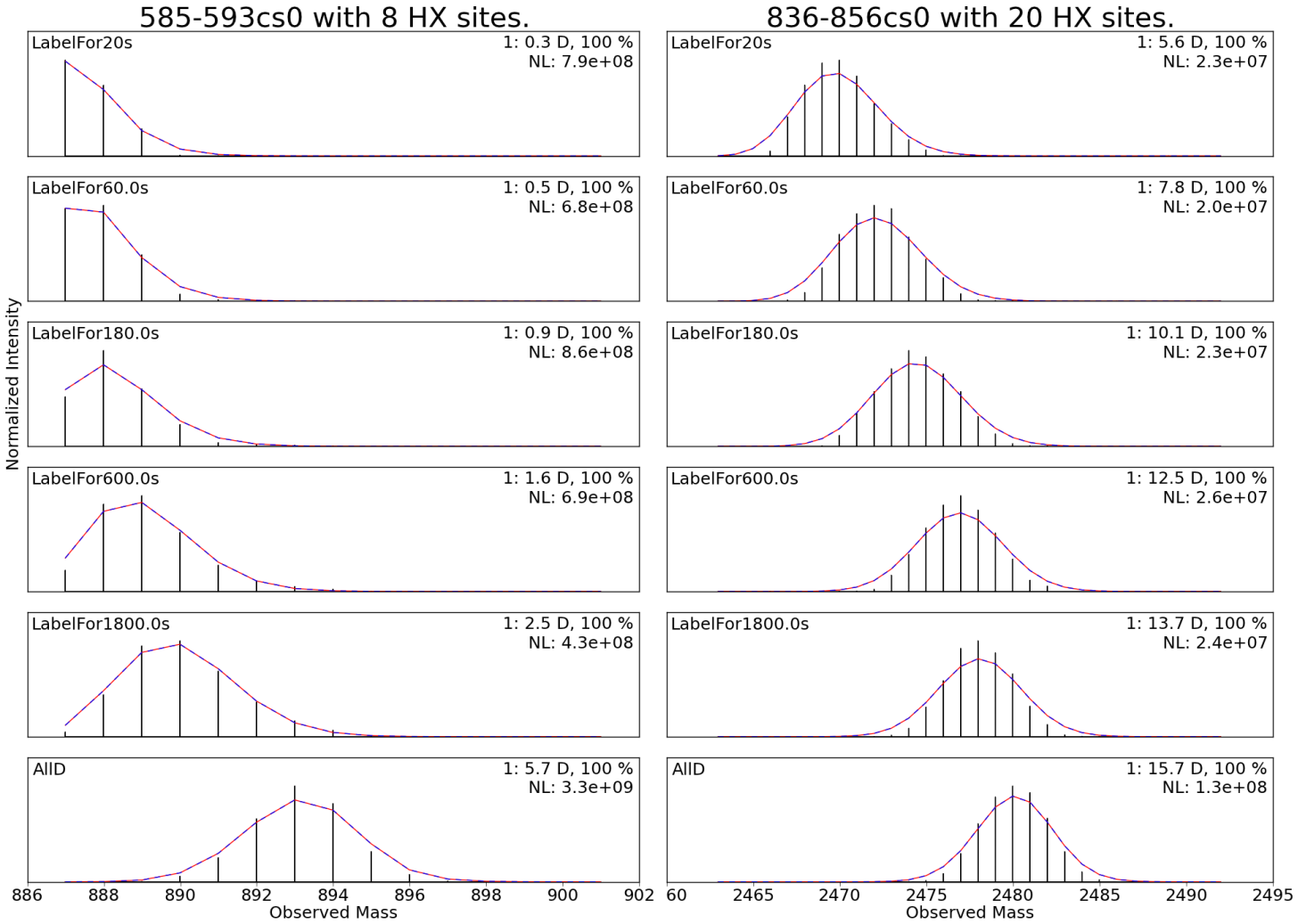
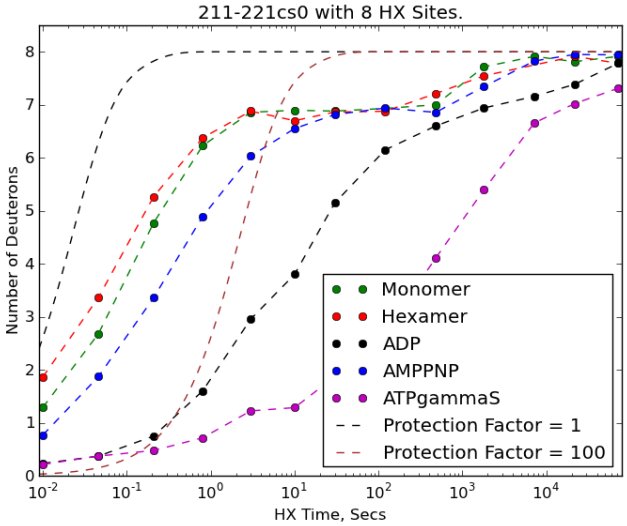
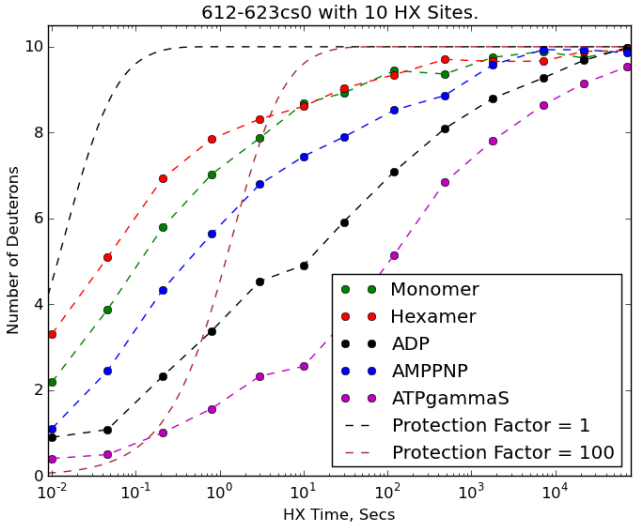


Fig. SI 9. Protomer interchange accelerated by ATP turnover. Active turnover in the presence of 10 mM ATP (with an ATP regenerating system) results in fast conformational averaging between the canonical and non-canonical interfaces, switching bimodal HX behavior to unimodal.

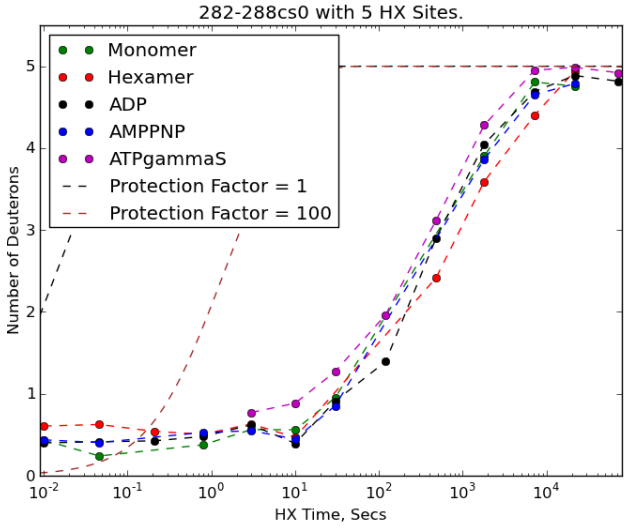
Walker A NBD1



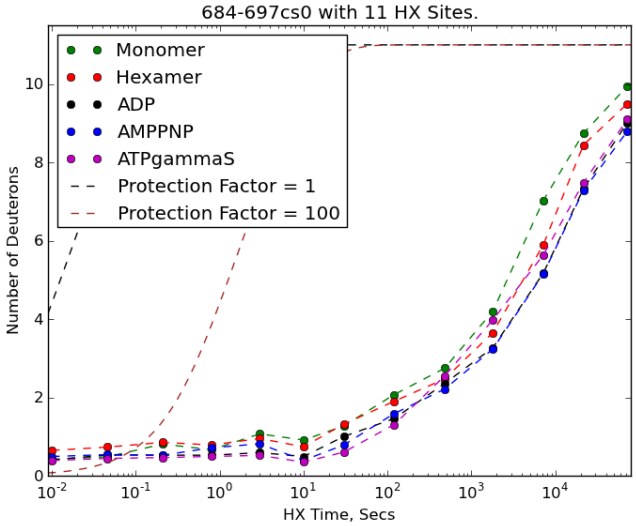
Walker A NBD2



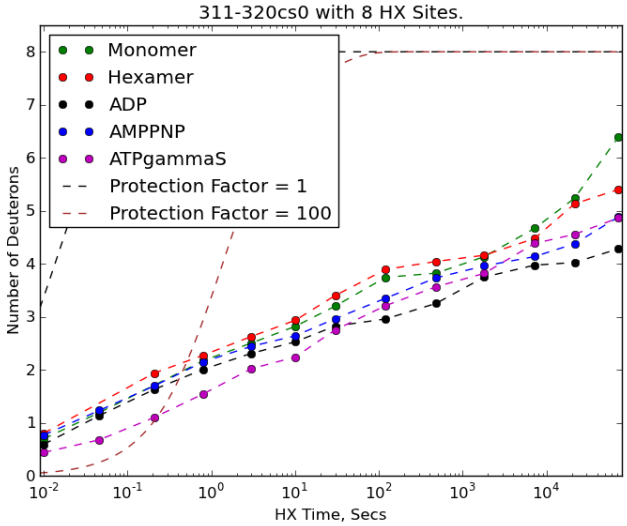
Walker B NBD1



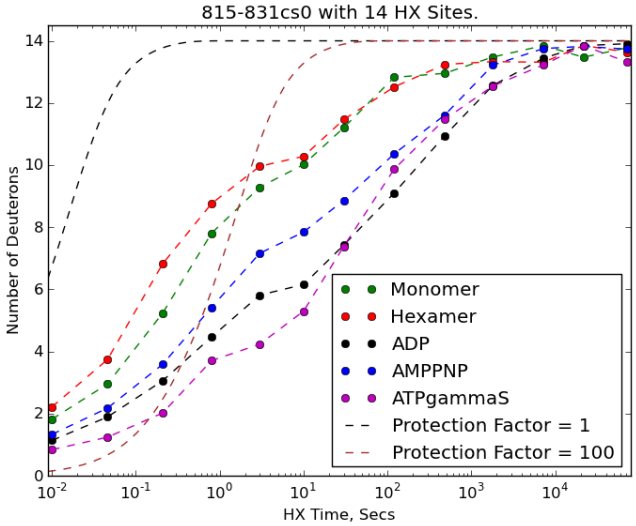
Walker B NBD2



Sensor1 NBD1



Sensor2 NBD2



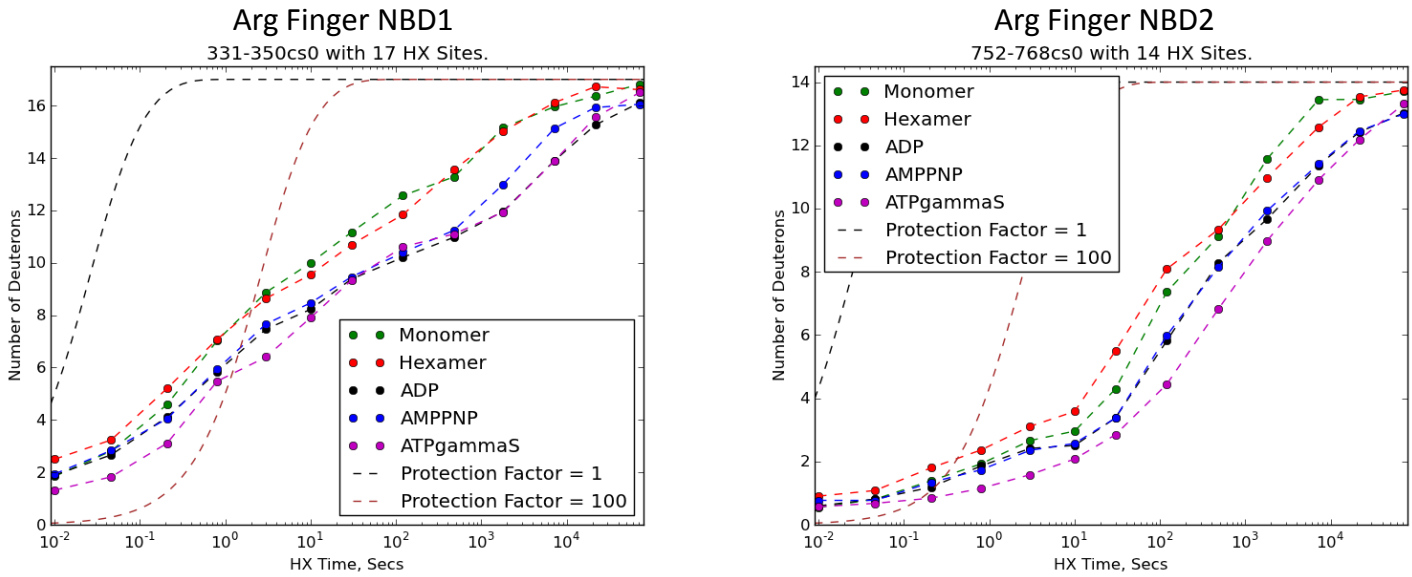


Fig. SI 10. Centroid plots of structural elements involved in nucleotide binding. The Walker A segment of both NBDs is by far the most affected by ATPγS binding making it the most likely candidate for inducing the formation of the ATP-characteristic closed conformation.

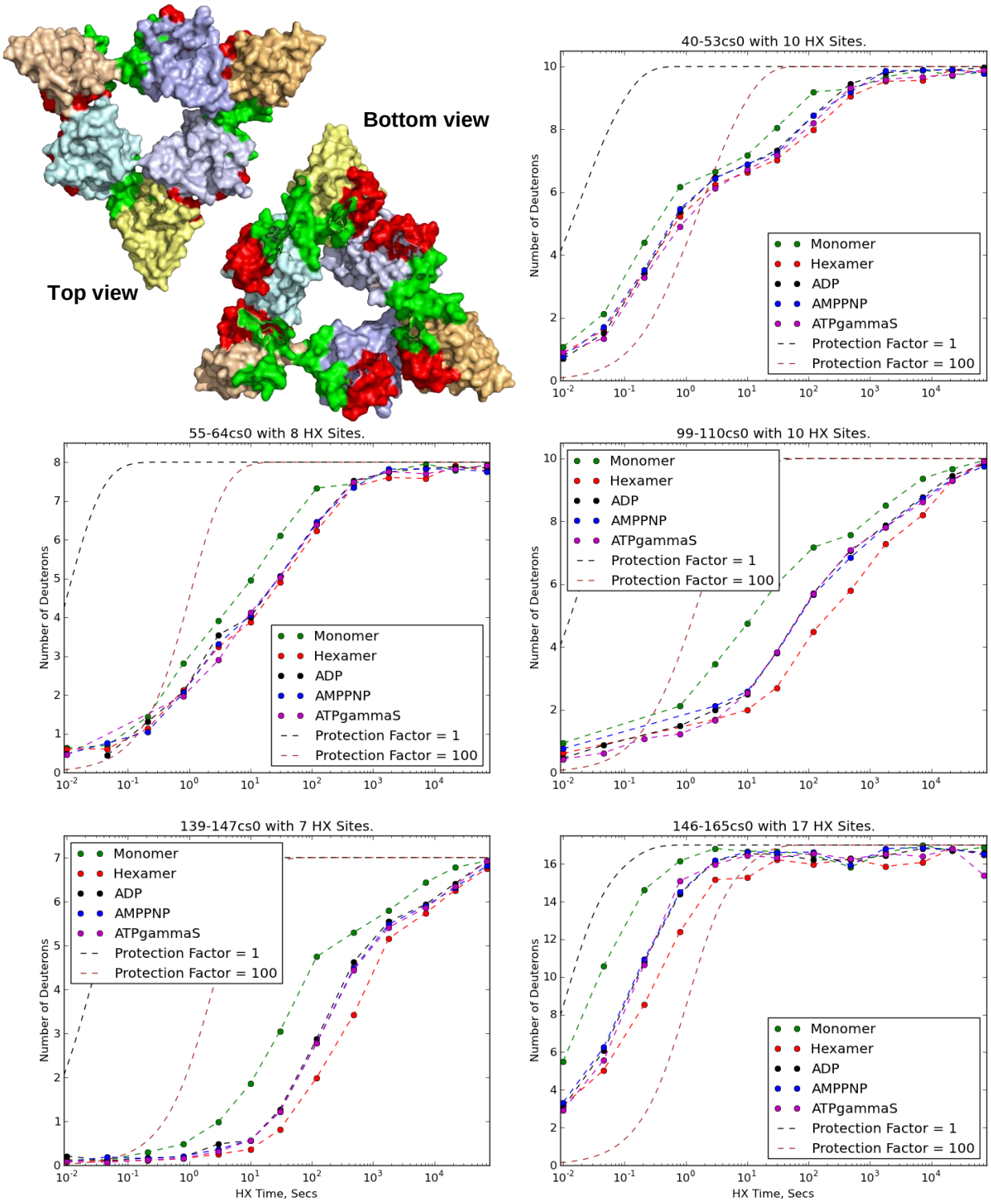
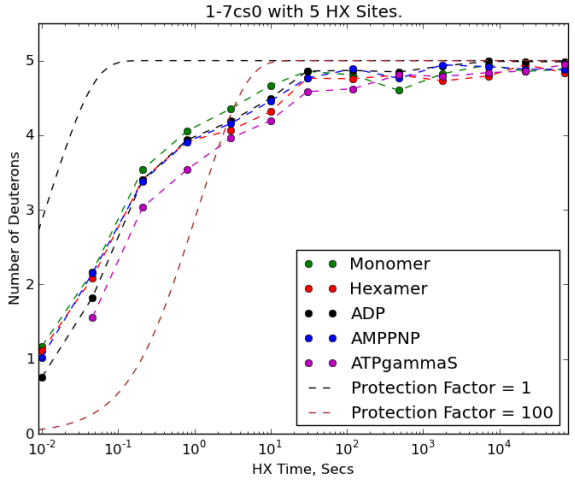
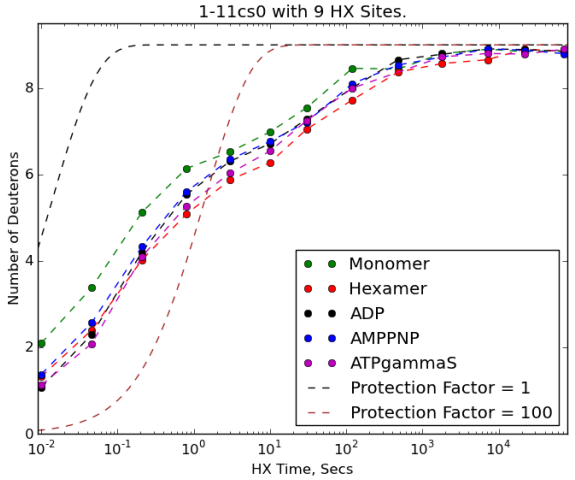
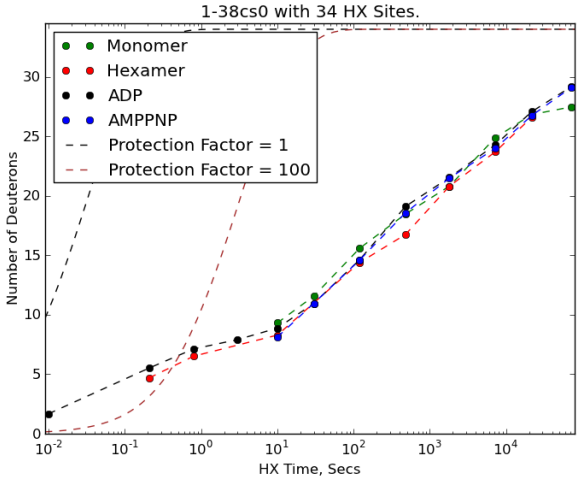
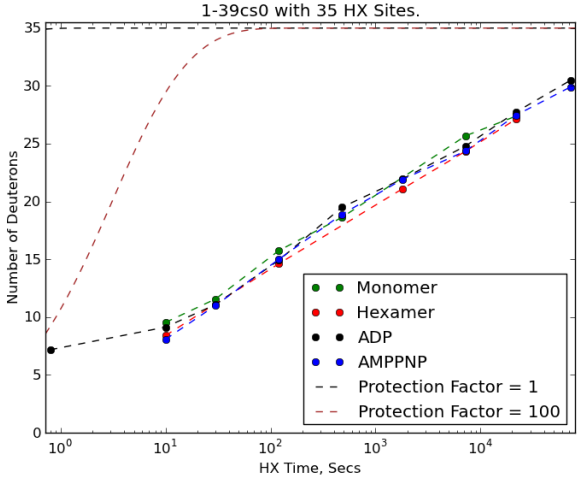


Fig. SI 11. Differential HX in the NTD. The top left panel shows the arrangement of the six NTDs in one class of the closed conformation resolved in (12). The regions slowed by hexamer formation are concentrated at the side of the NTDs adjacent to NBD1, indicating direct association. Regions that are stabilized by the four hexameric conditions to a similar extent are colored red; they include 40-53 and 55-64 as shown in the first two mass centroid plots. Regions that are stabilized more by the bare apohexamer condition than by the three nucleotide-bound conditions are green. They are represented by the other three peptides in this figure.


1-7cs0 with 5 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100


1-11cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100


1-38cs0 with 34 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100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Number of Deuterons
HX Time, Secs
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Hexamer
ADP
AMPPNP
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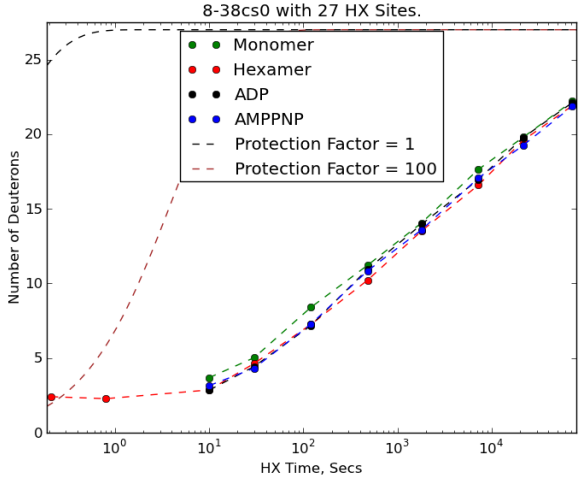
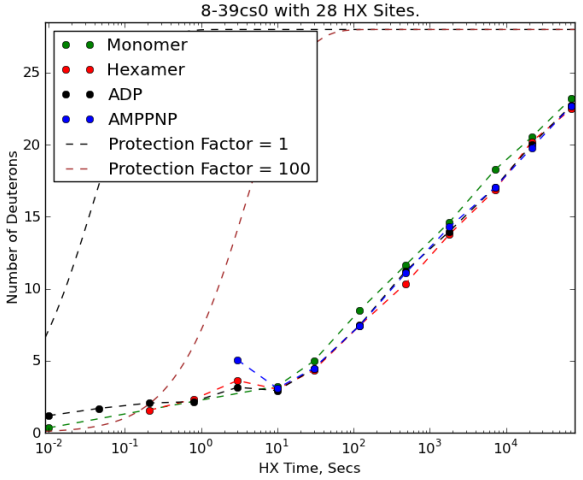

8-38cs0 with 27 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100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Number of Deuterons
HX Time, Secs
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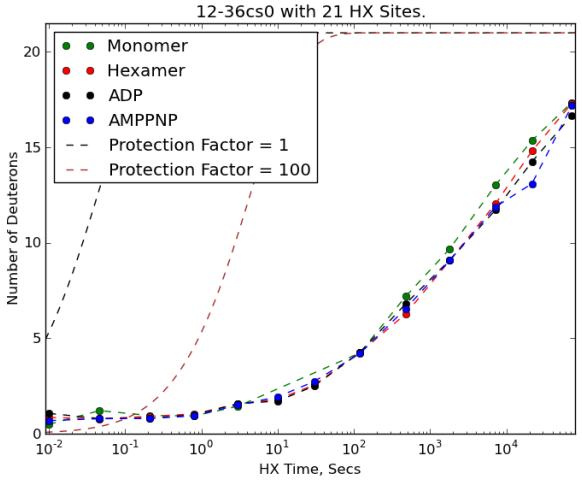
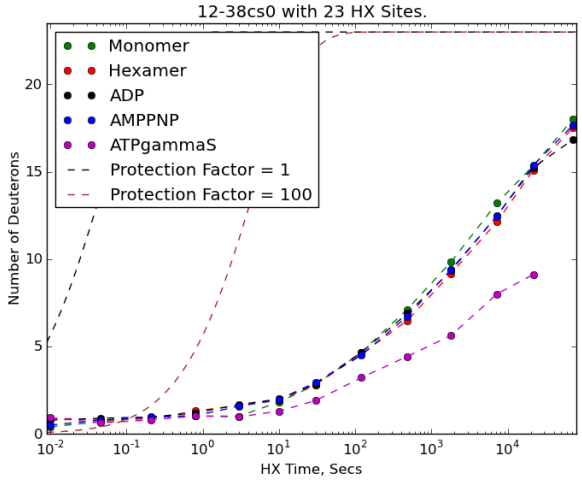
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100


12-36cs0 with 21 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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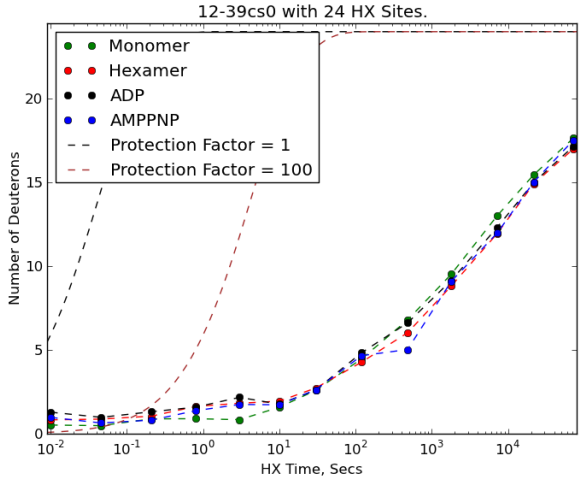
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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Hexamer
ADP
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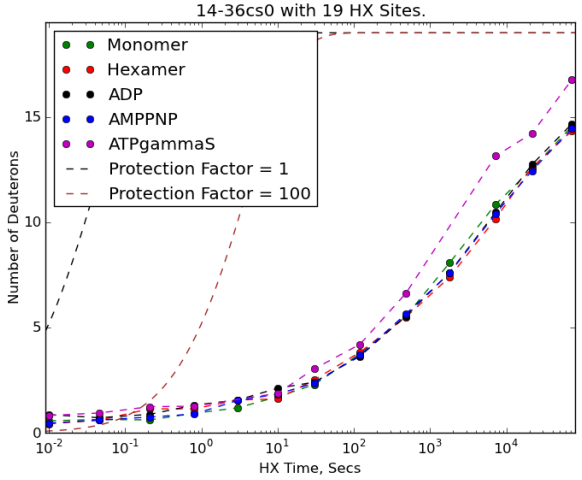
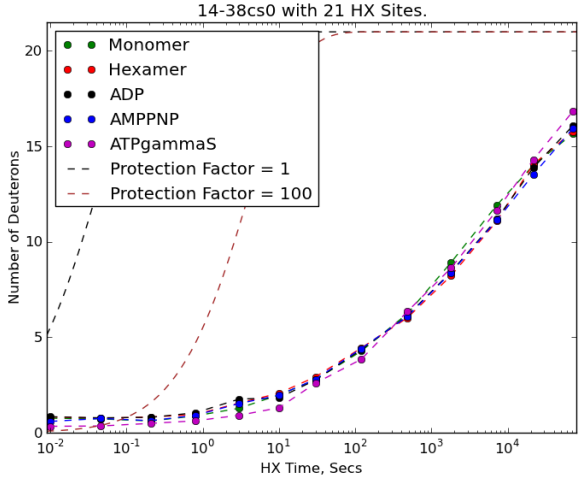
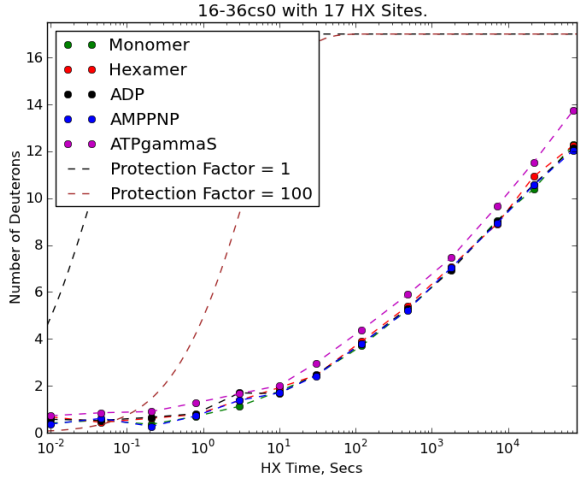
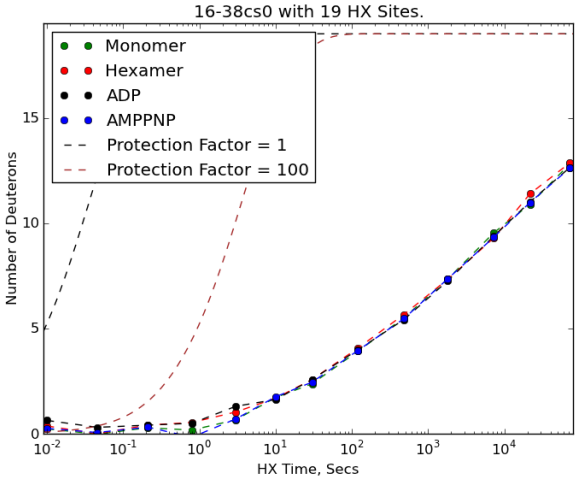
Number of Deuterons
HX Time, Secs


14-36cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs


14-38cs0 with 21 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs


16-36cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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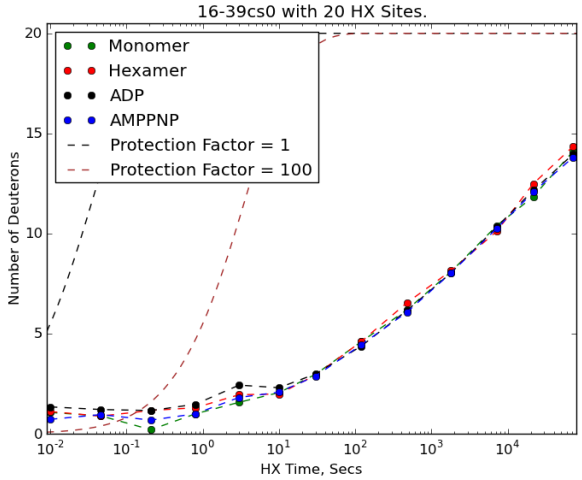
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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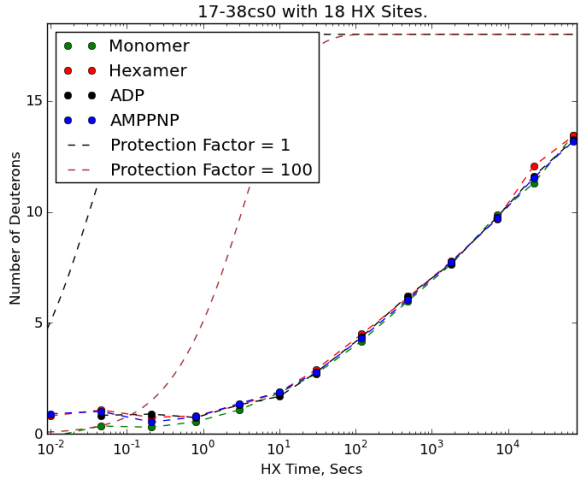
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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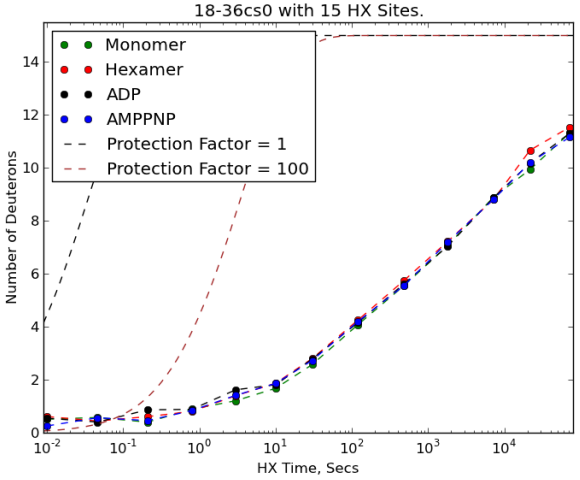
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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Hexamer
ADP
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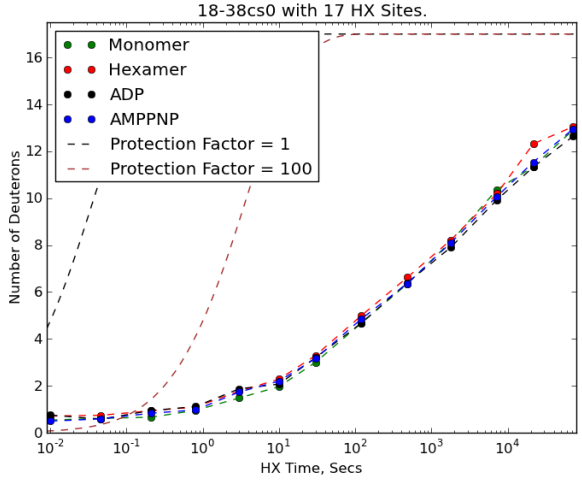
Protection Factor = 100
Number of Deuterons
HX Time, Secs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ADP
AMPPNP
Protection Factor = 1
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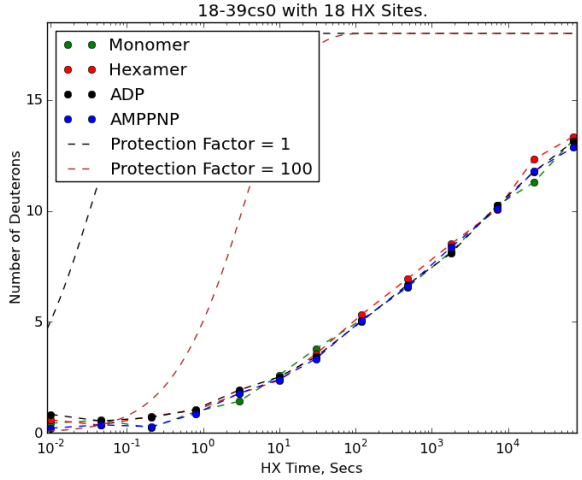
Number of Deuterons
HX Time, Secs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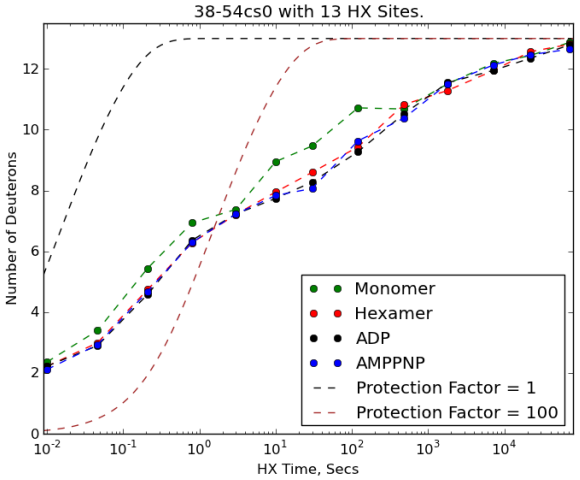
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs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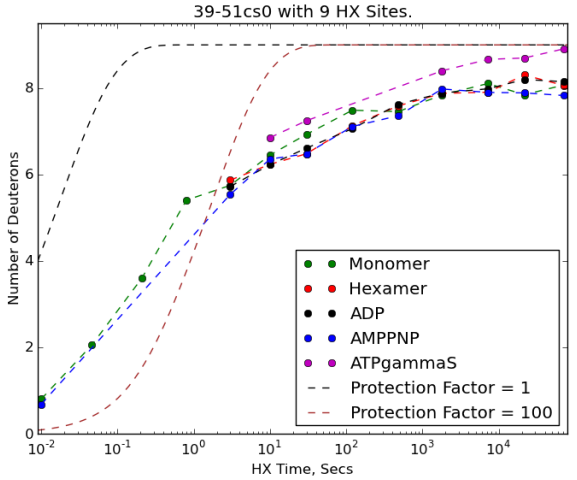
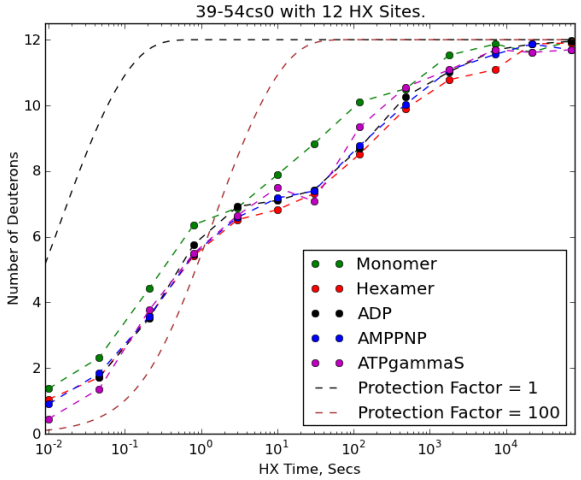
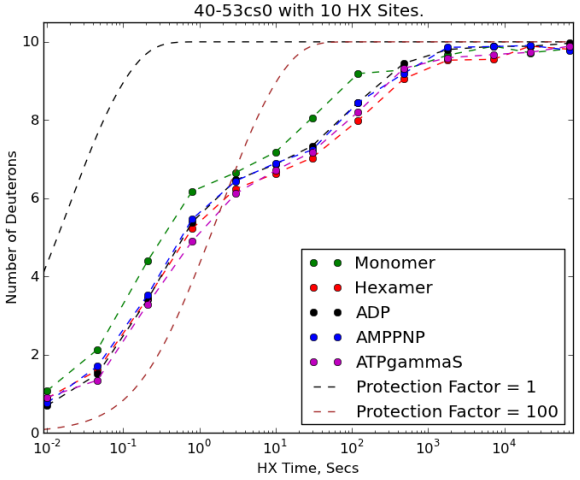
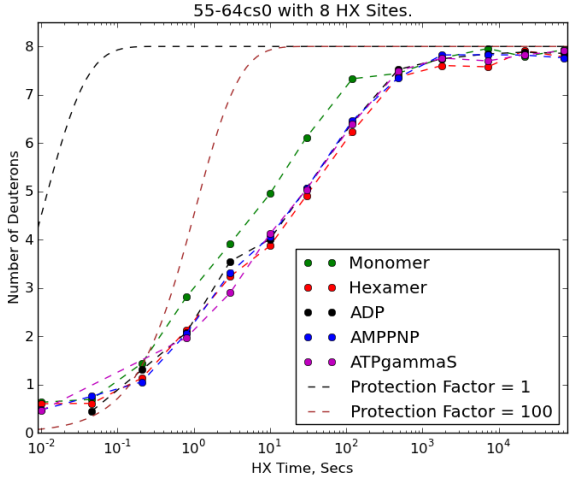
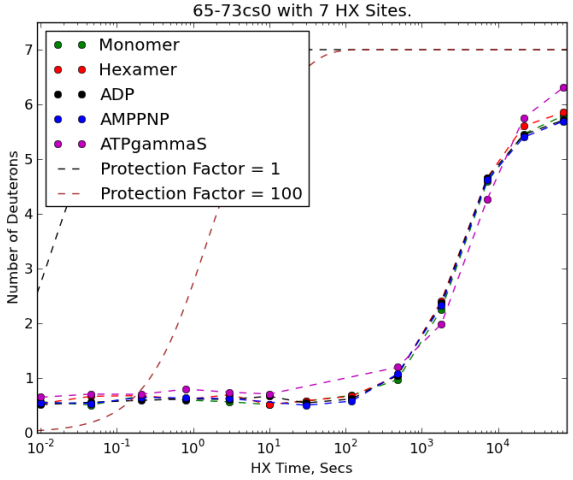
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

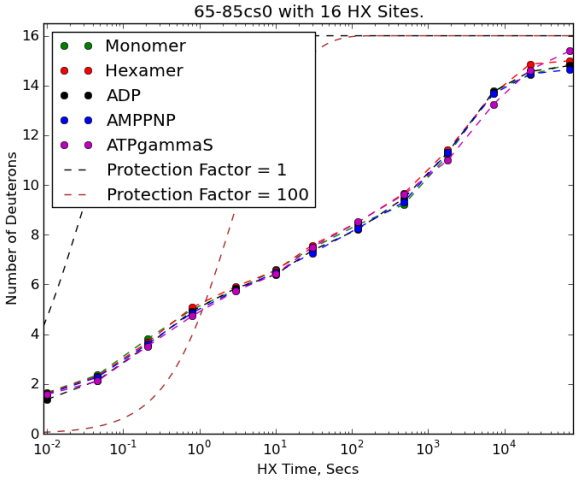

39-51cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

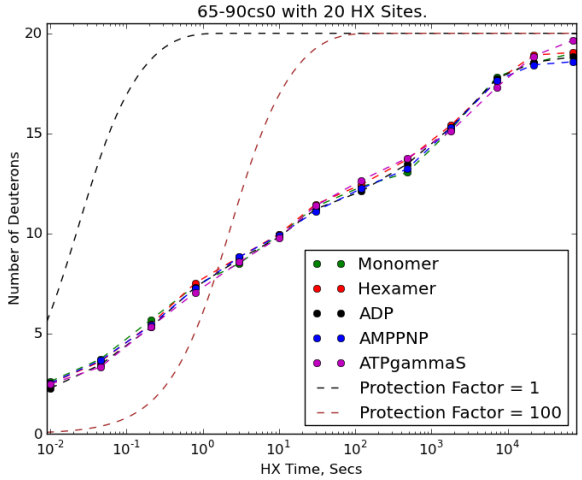

39-54cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

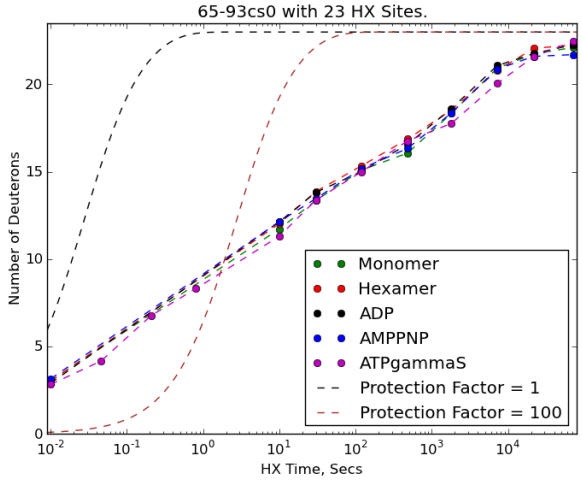

40-53cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

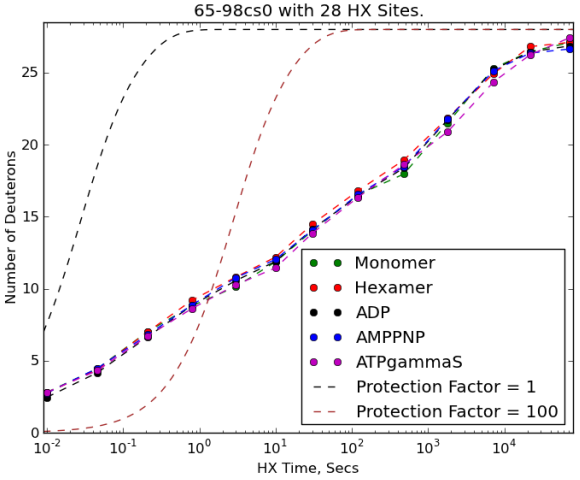

55-64cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

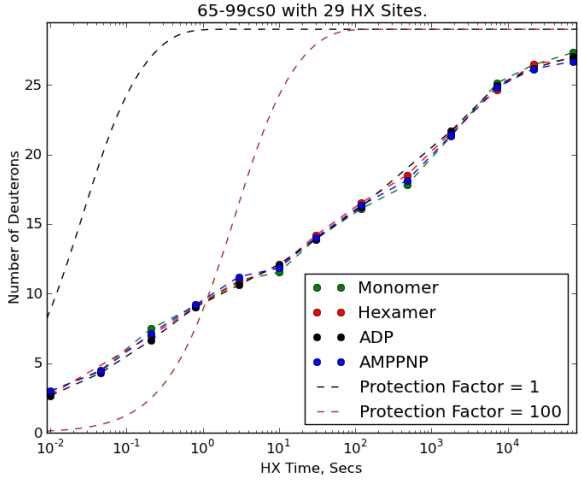

65-73cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

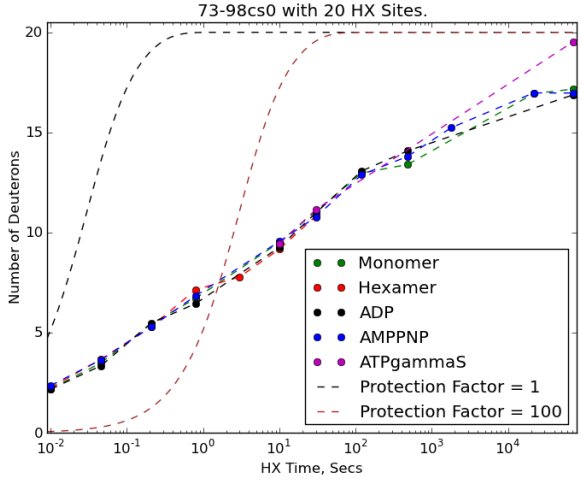

65-85cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

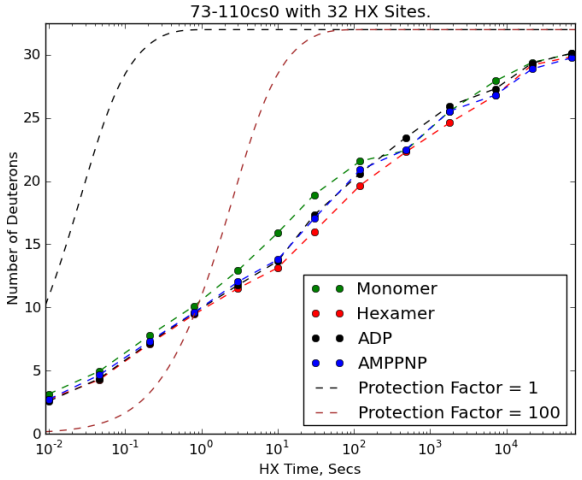

65-90cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

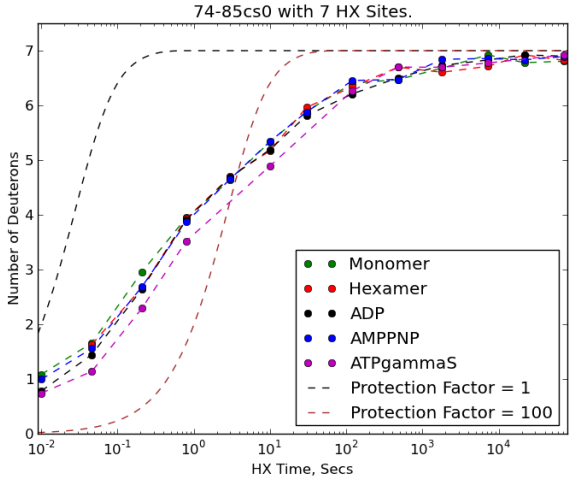

65-93cs0 with 23 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

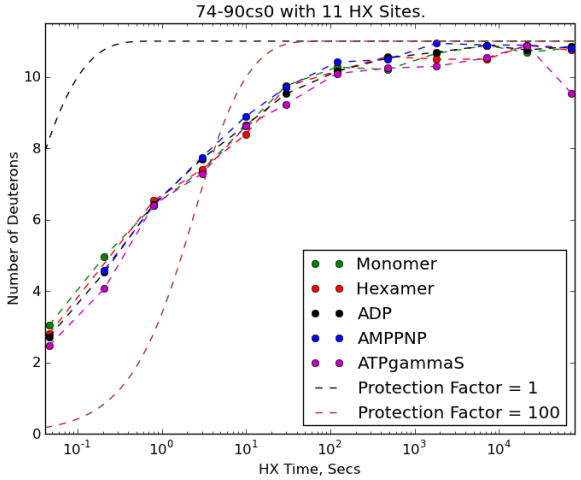

65-98cs0 with 28 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

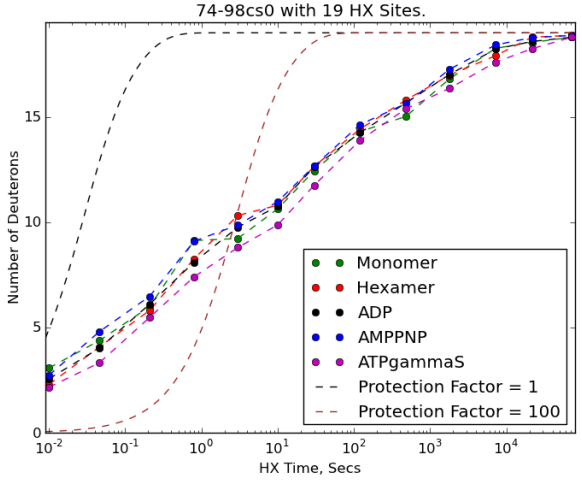

65-99cs0 with 29 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

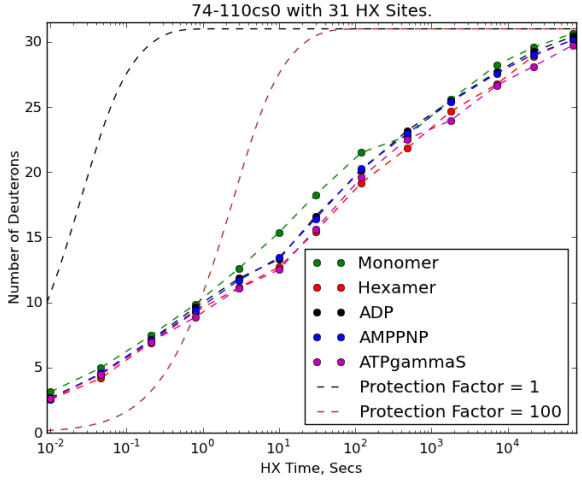

73-98cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

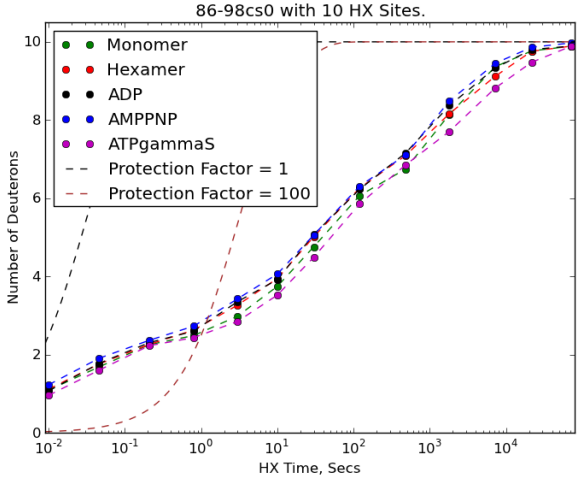

73-110cs0 with 32 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

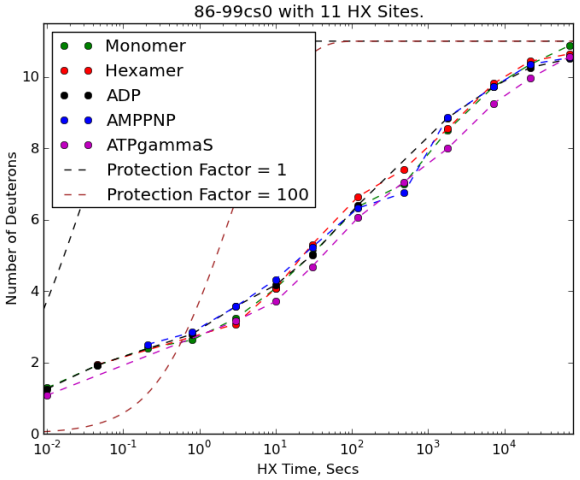

74-85cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

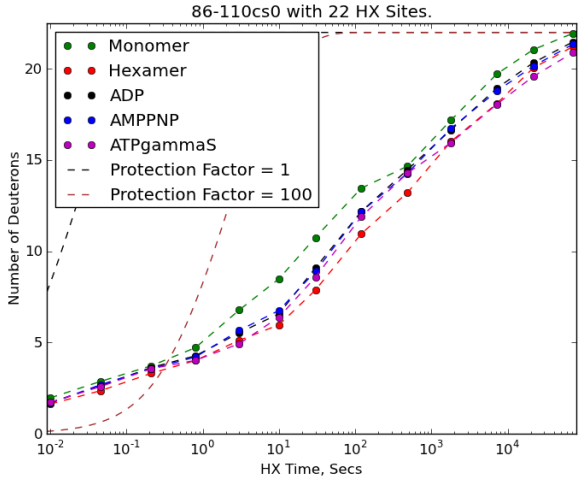

74-90cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

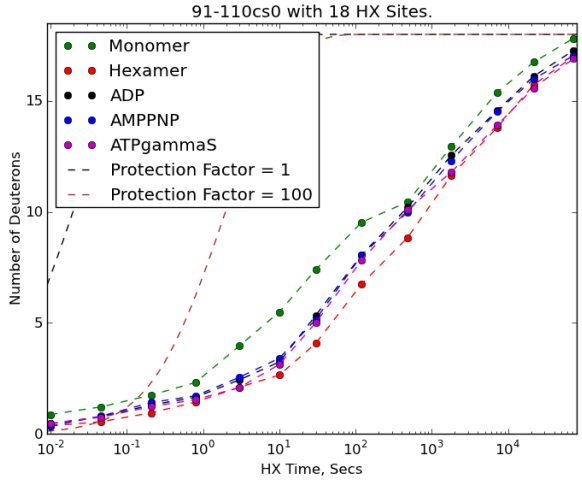

74-98cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

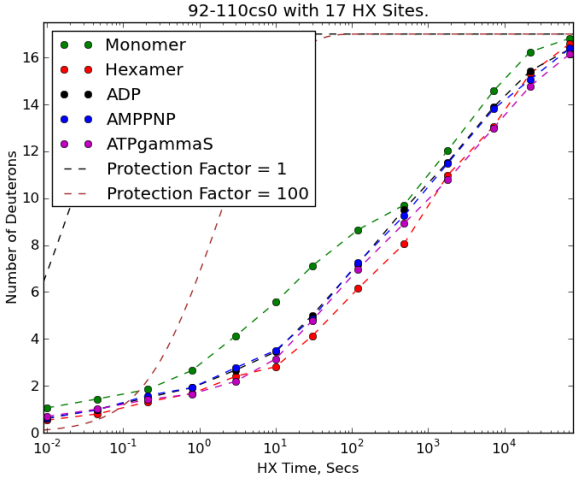

74-110cs0 with 31 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

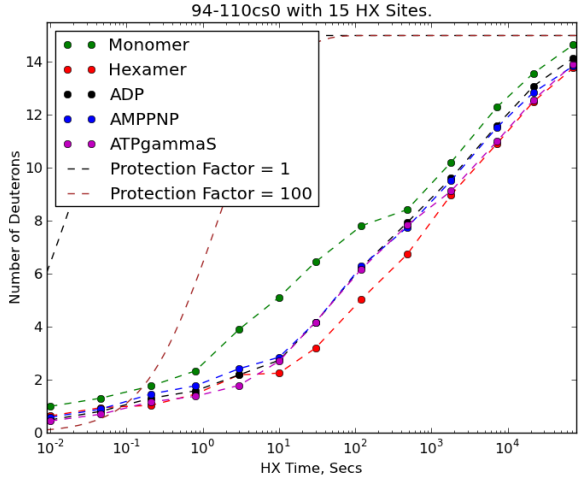

86-98cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

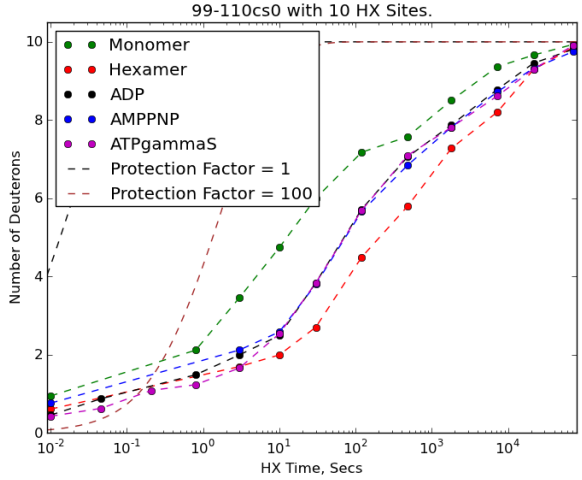

86-99cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

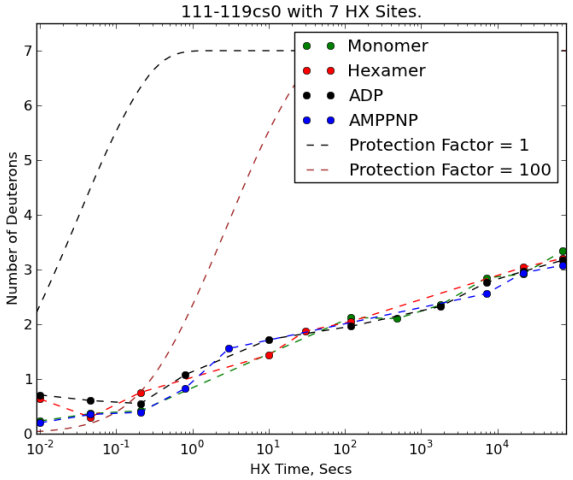

86-110cs0 with 22 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

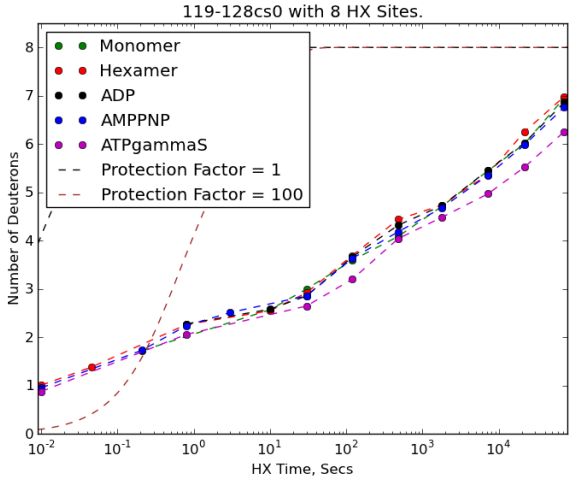

91-110cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

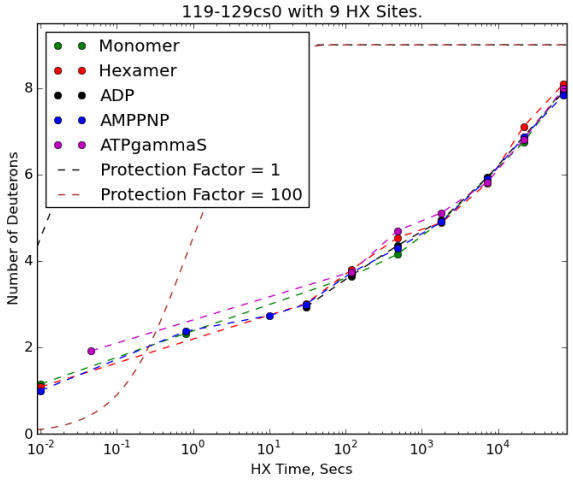

92-110cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

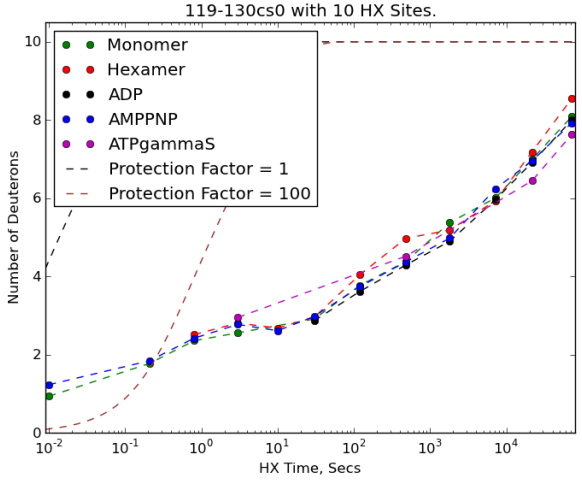

94-110cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

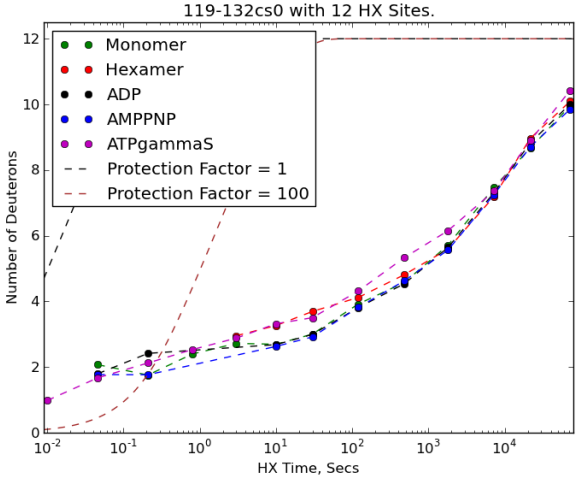

99-110cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

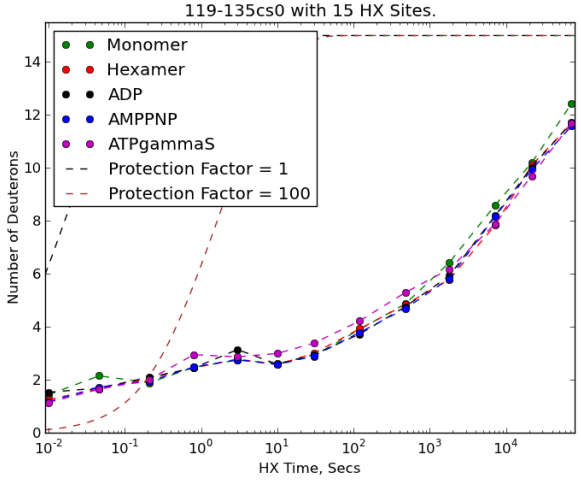

111-119cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

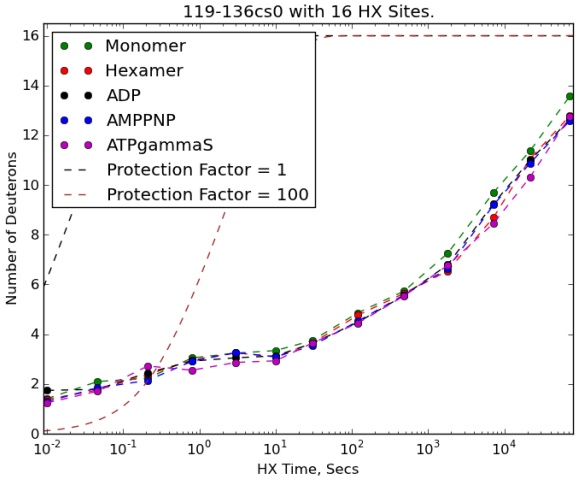

119-128cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

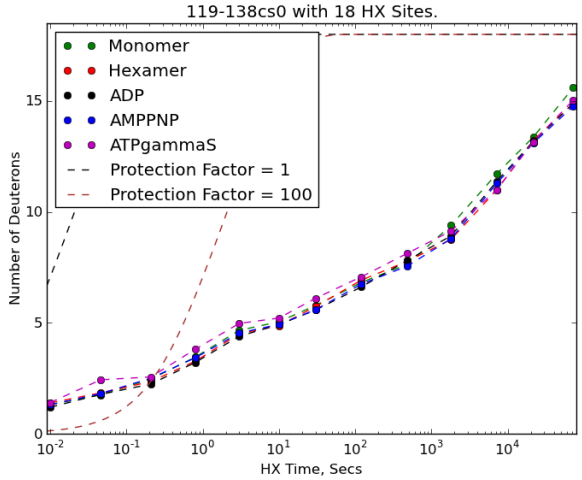

119-129cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

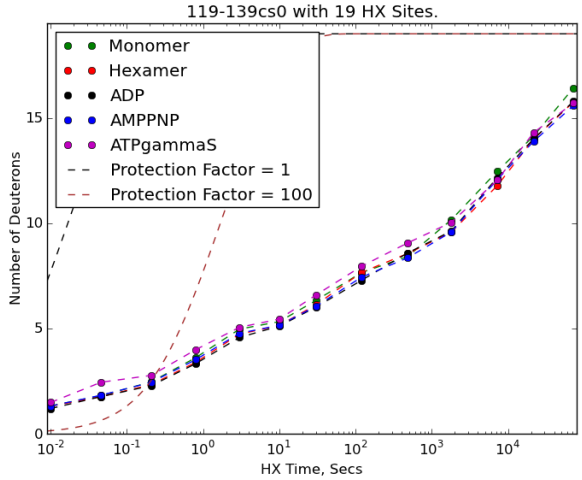

119-130cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

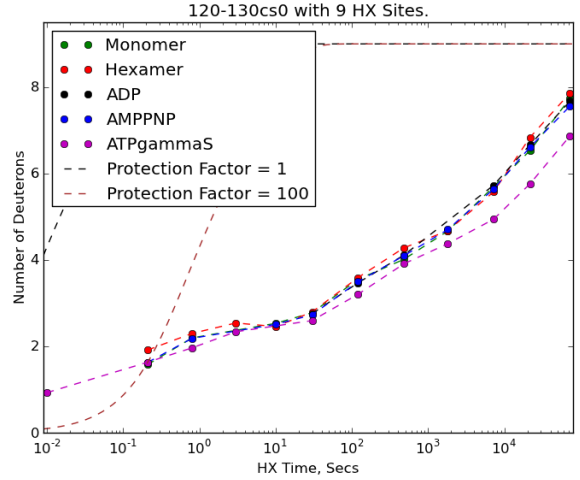

119-132cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

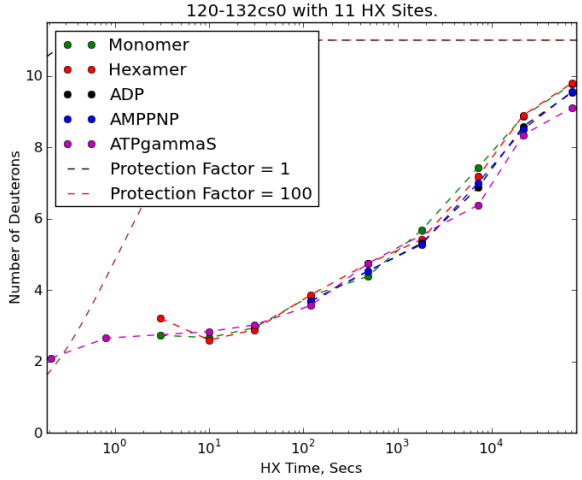

119-135cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

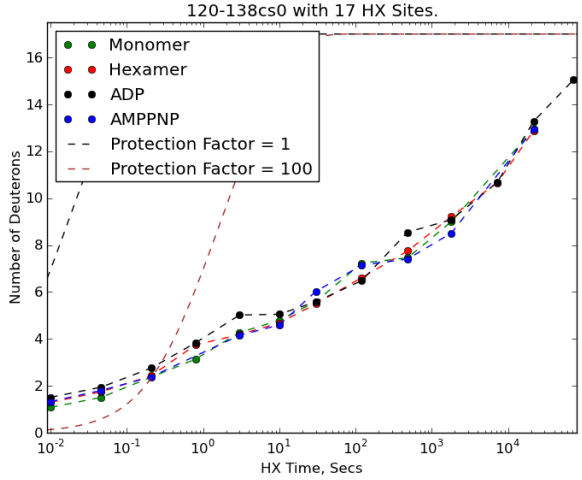

119-136cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

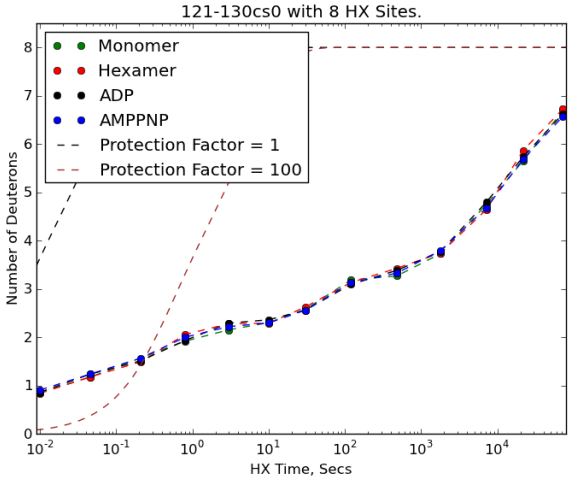

119-138cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

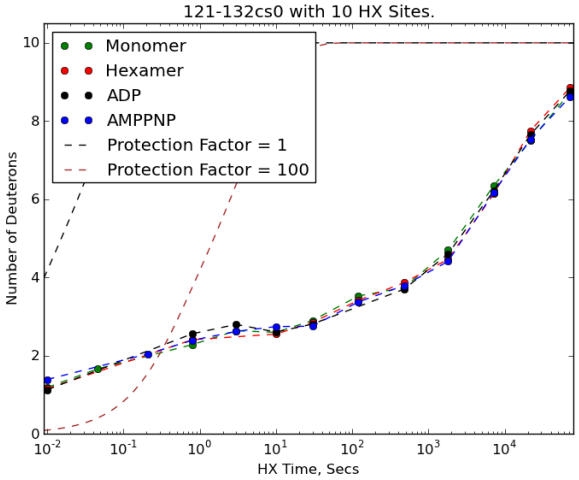

119-139cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

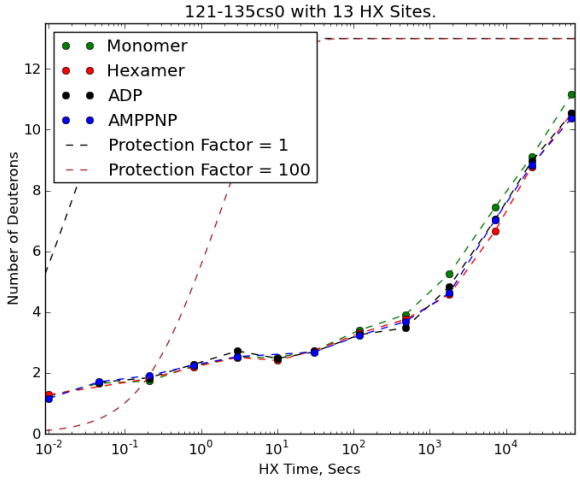

120-130cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

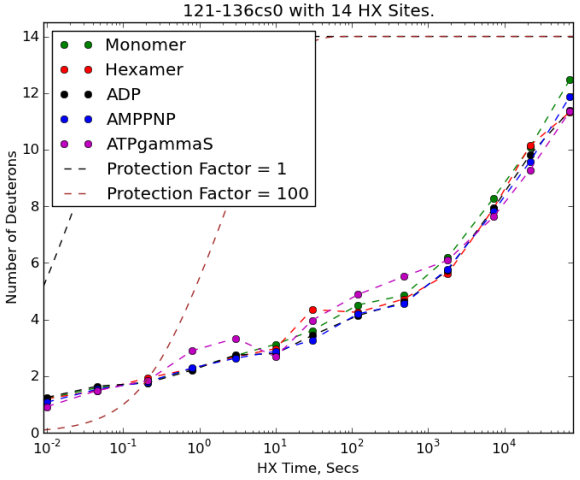

120-132cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

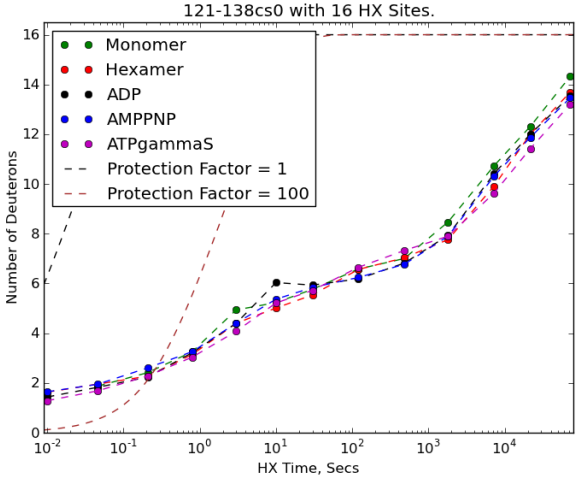

120-138cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

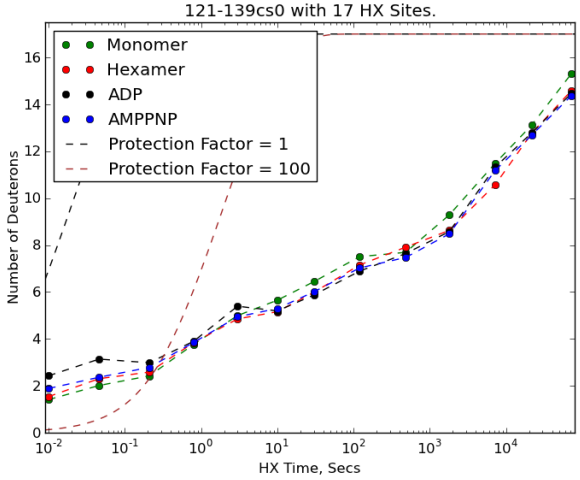

121-130cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

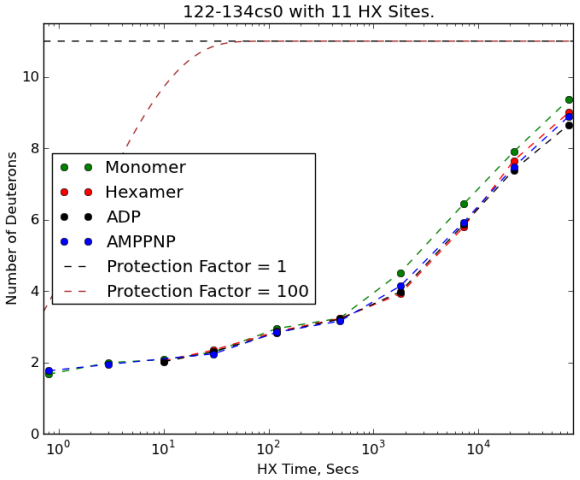

121-132cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

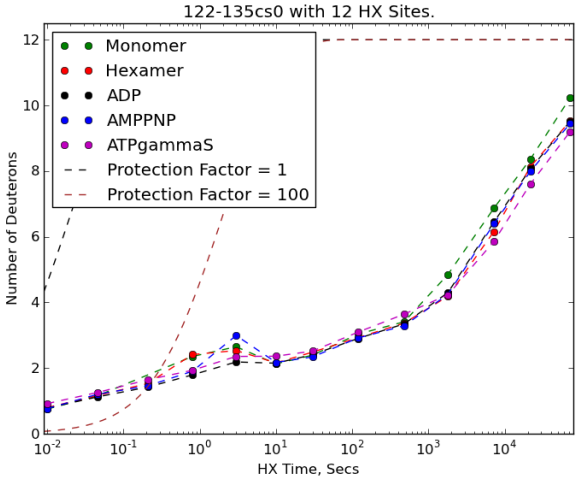

121-135cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

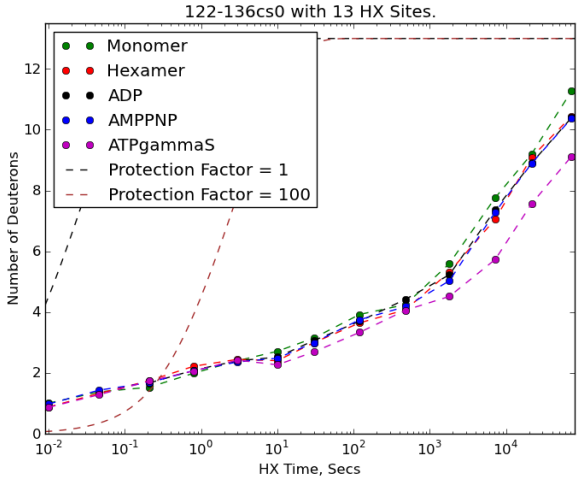

121-136cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

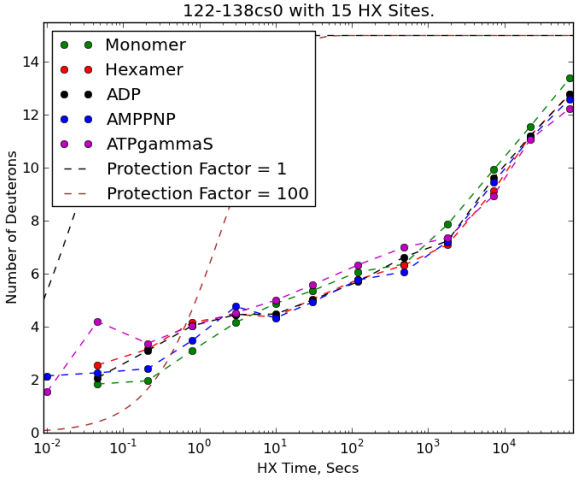

121-138cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

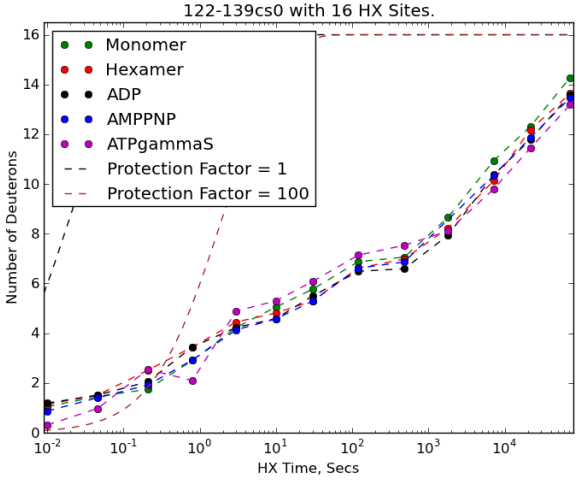

121-139cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

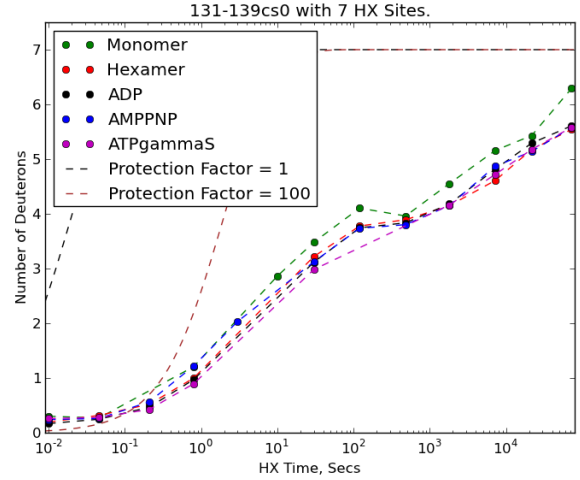

122-134cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

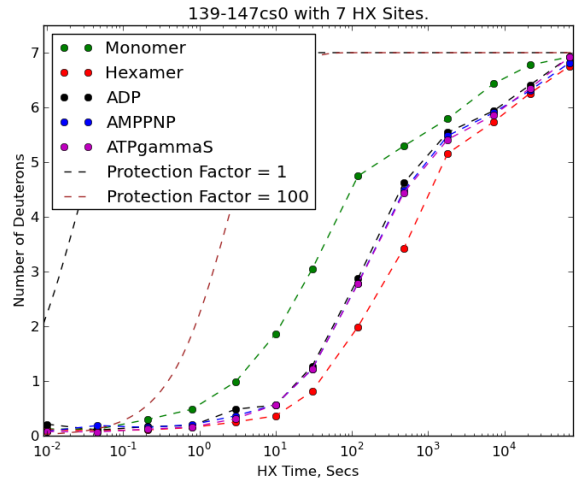

122-135cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

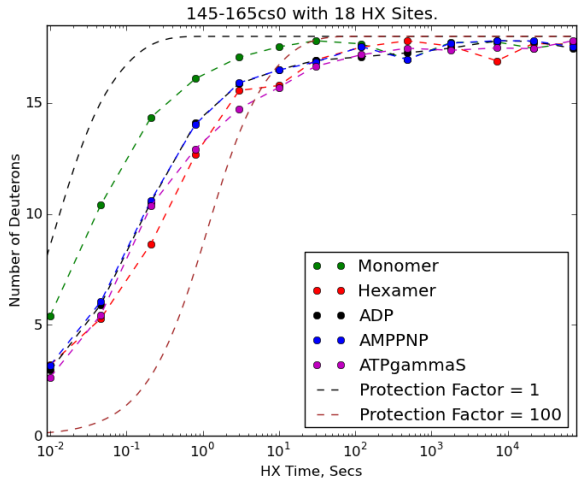

122-136cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

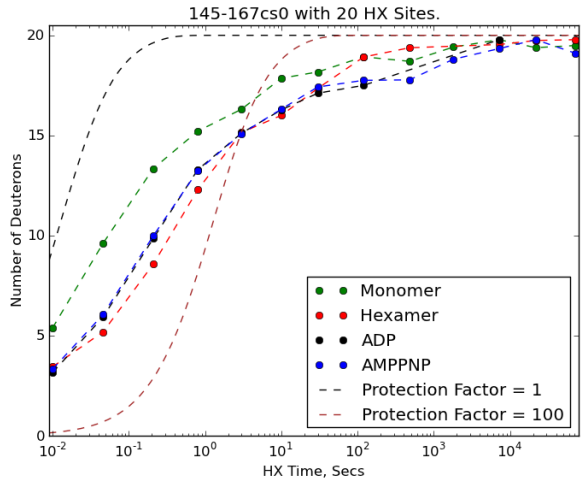

122-138cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

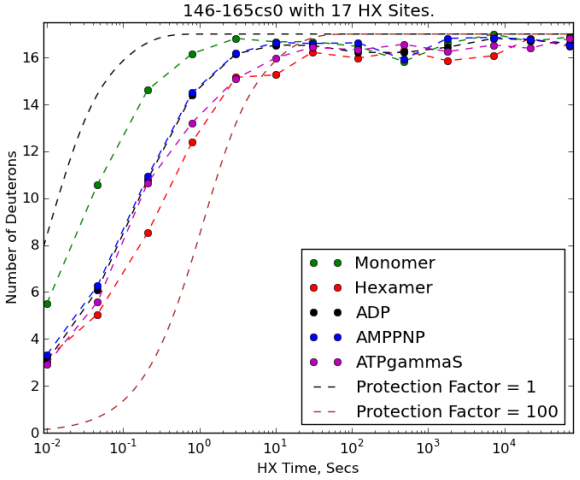

122-139cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

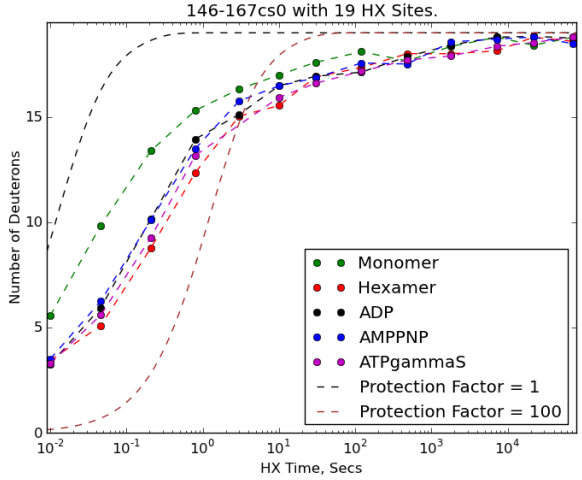

131-139cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

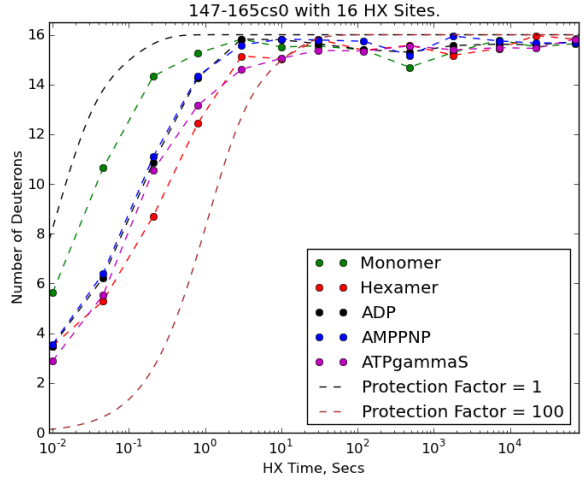

139-147cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

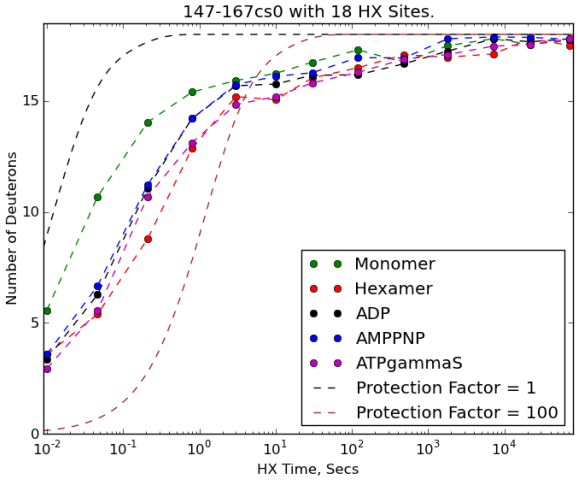

145-165cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

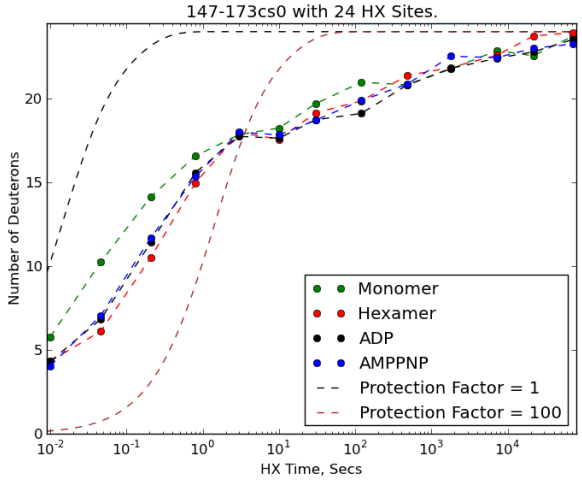

145-167cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

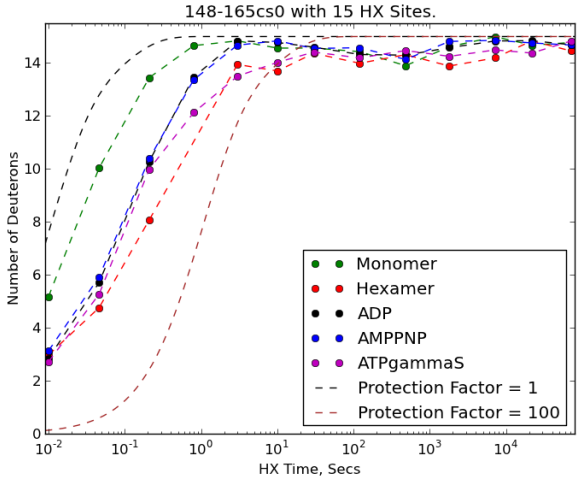

146-165cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

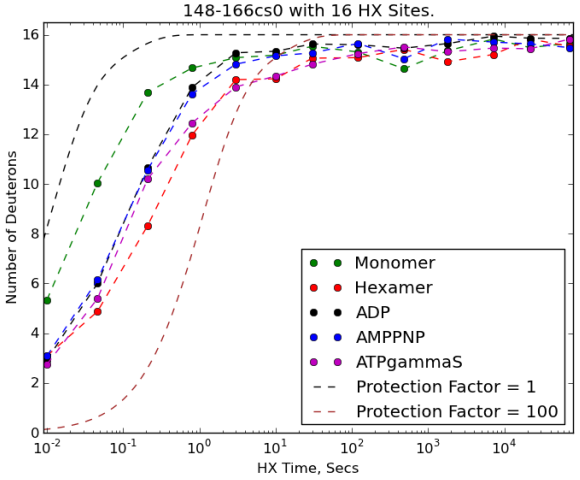

146-167cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

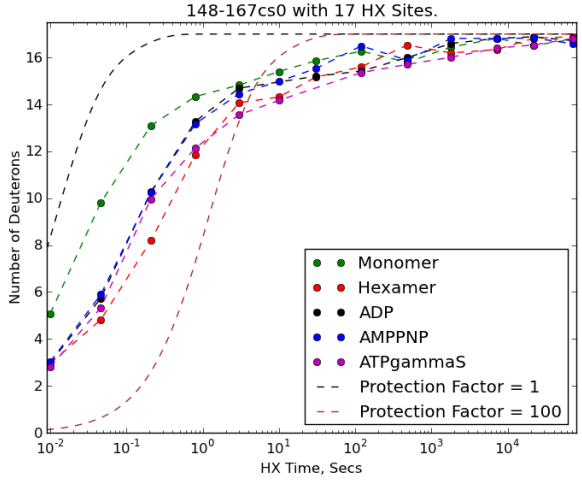

147-165cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

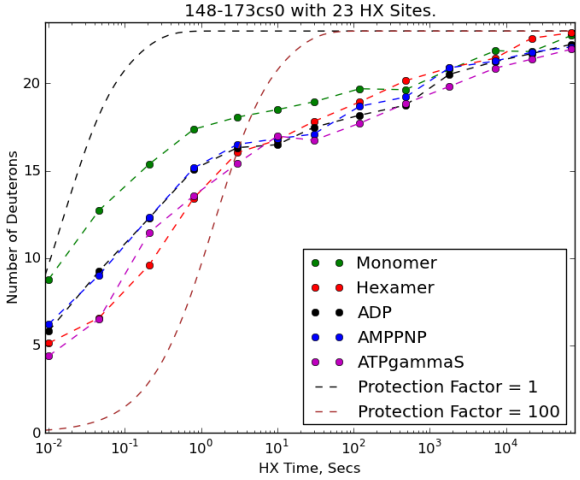

147-167cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

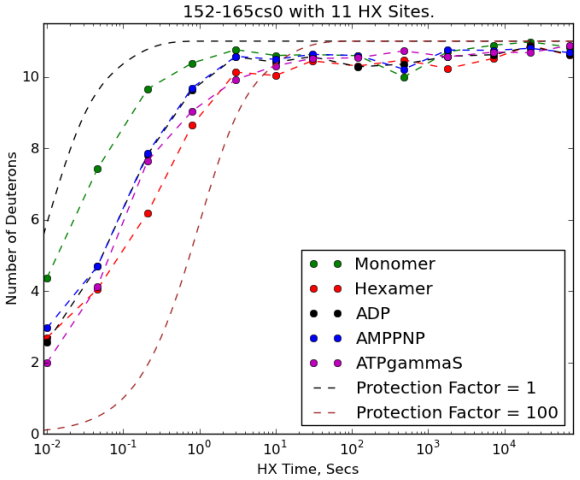

147-173cs0 with 24 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

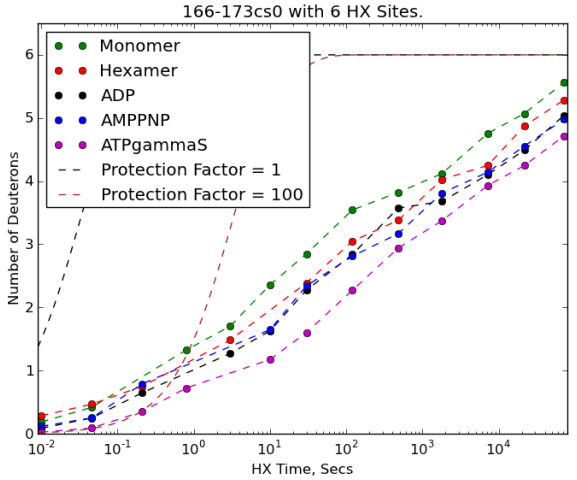

148-165cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

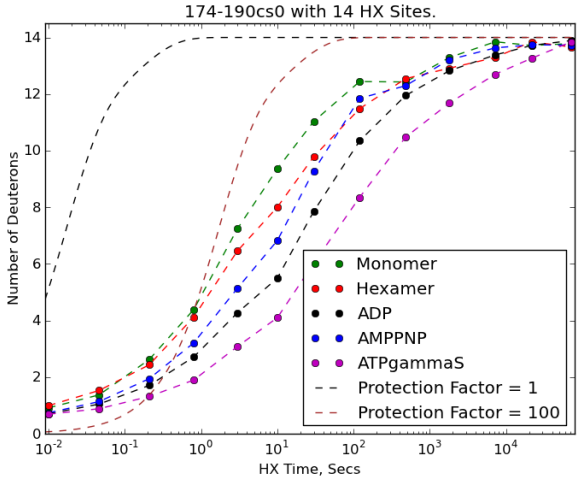

148-166cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

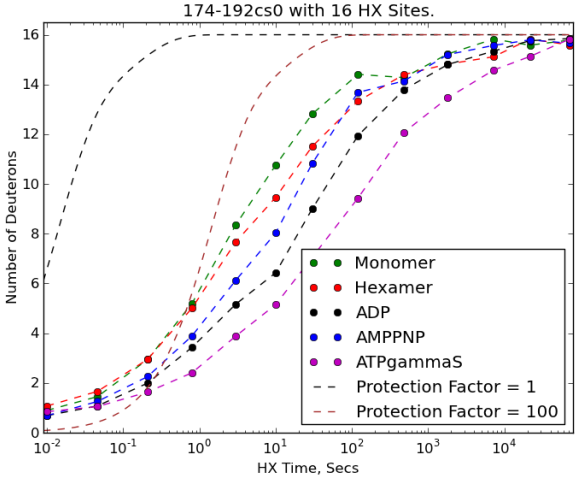

148-167cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

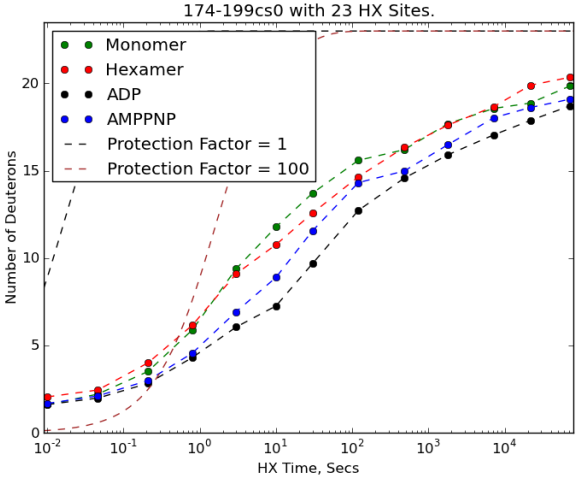

148-173cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

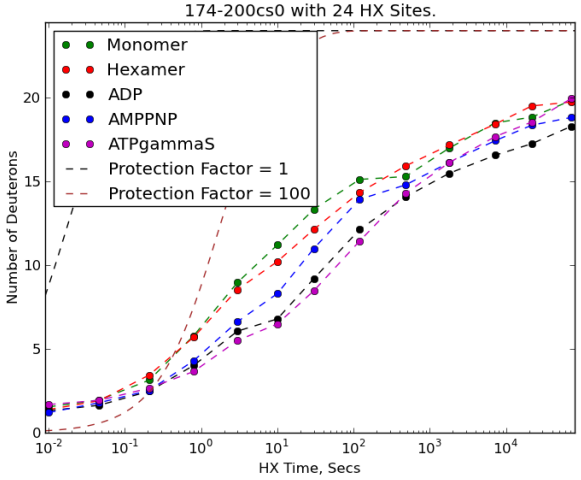

152-165cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

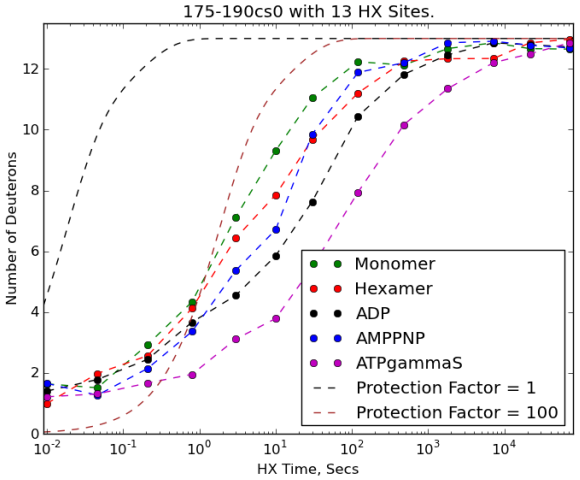

166-173cs0 with 6 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

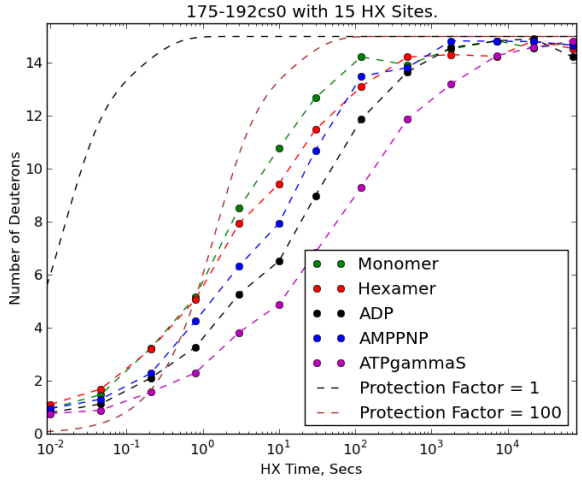

174-190cs0 with 14 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

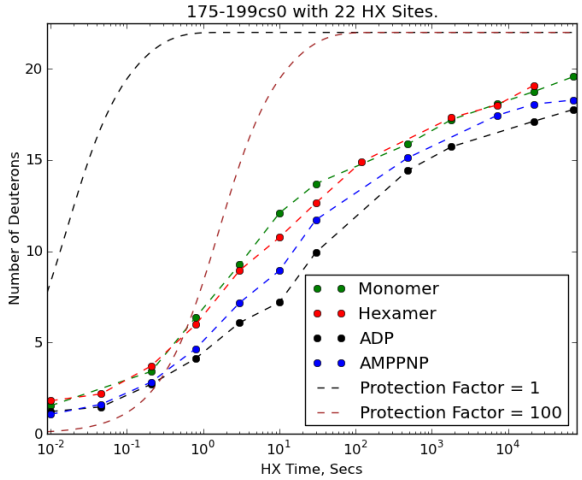

174-192cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

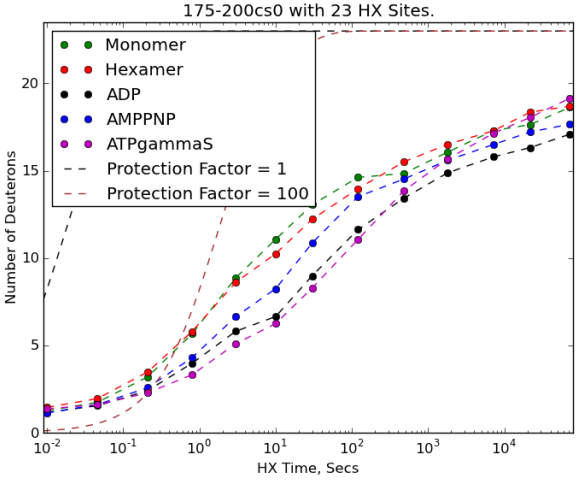

174-199cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

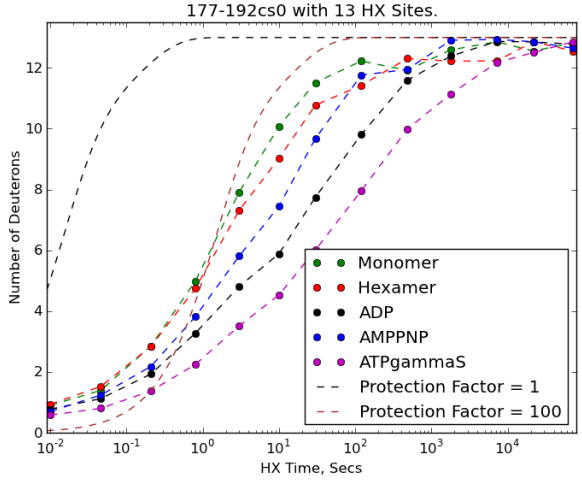

174-200cs0 with 24 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

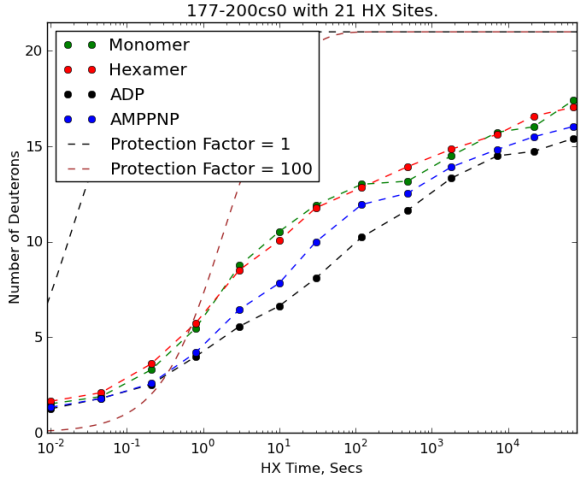

175-190cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

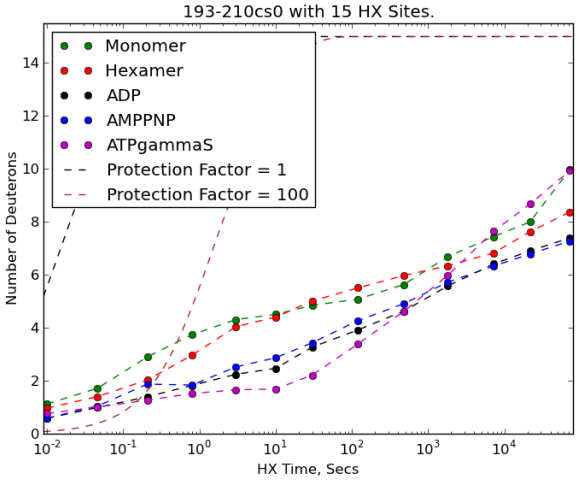

175-192cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

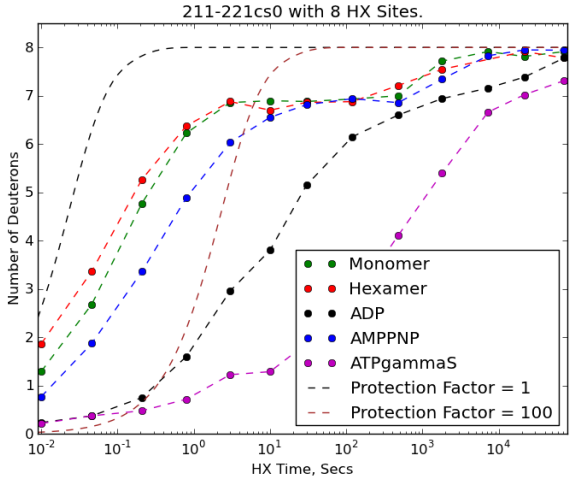

175-199cs0 with 22 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

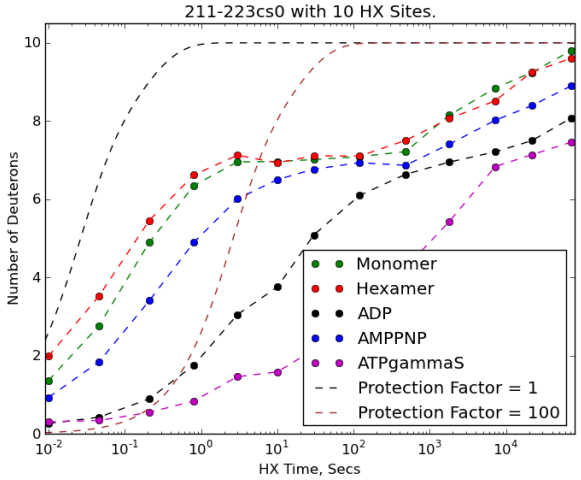

175-200cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

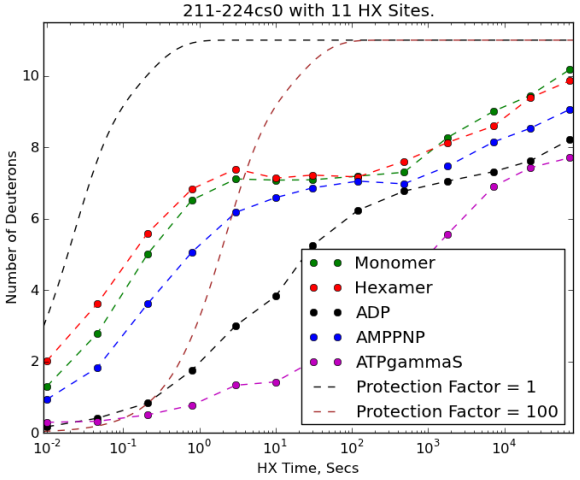

177-192cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

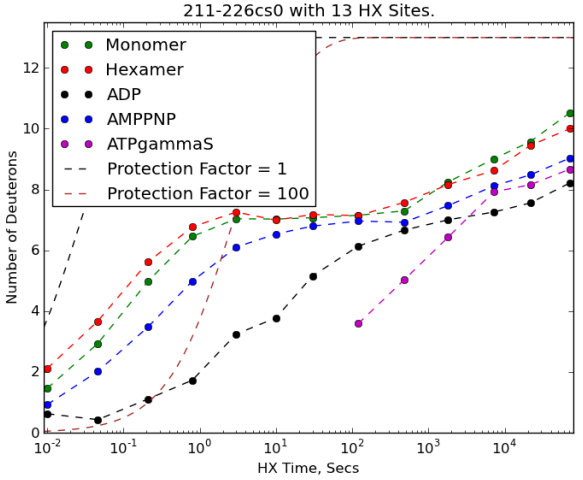

177-200cs0 with 21 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

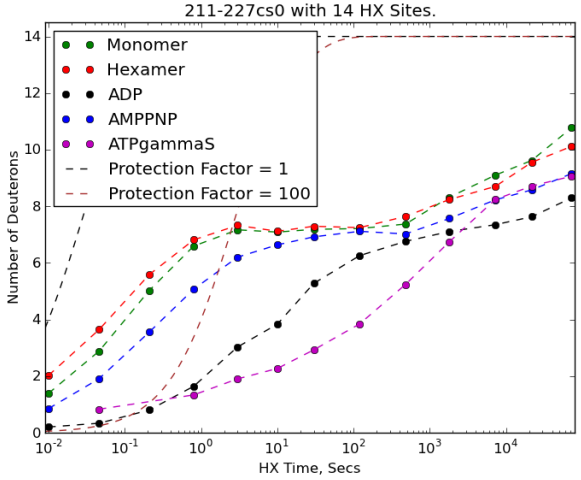

193-210cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

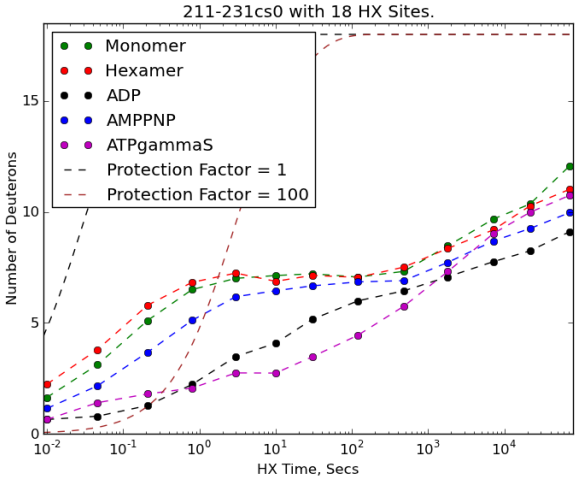

211-221cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

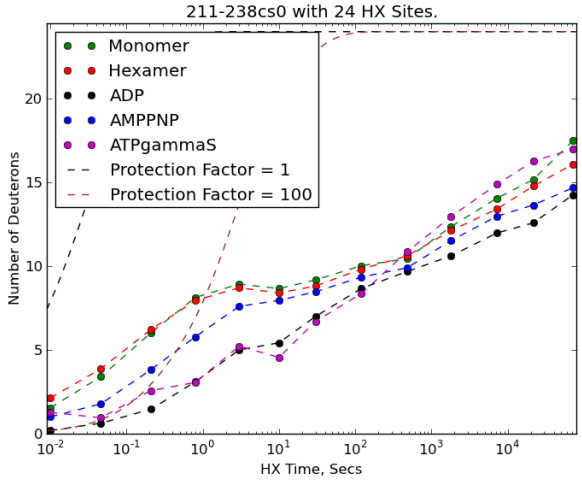

211-223cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

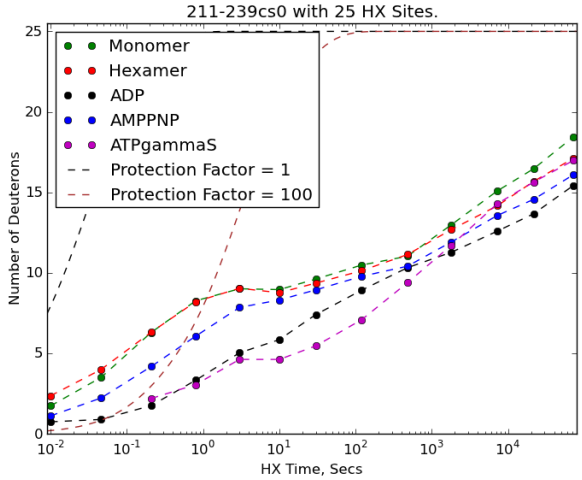

211-224cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

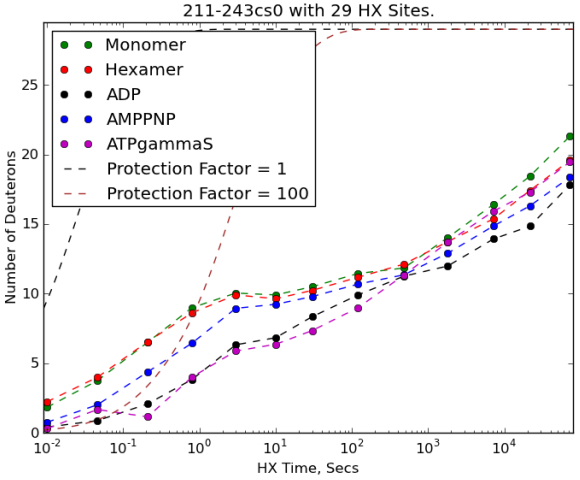

211-226cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

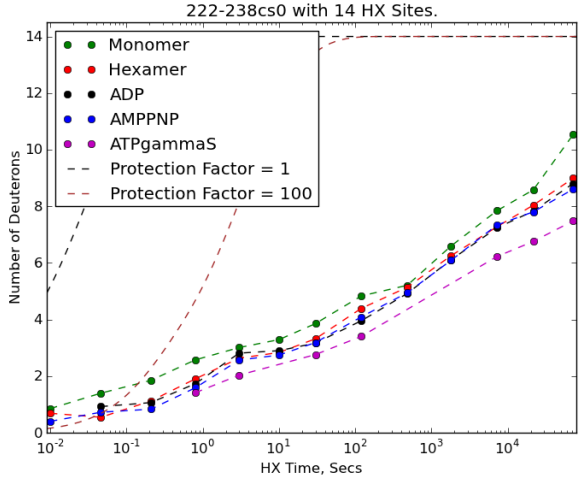

211-227cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

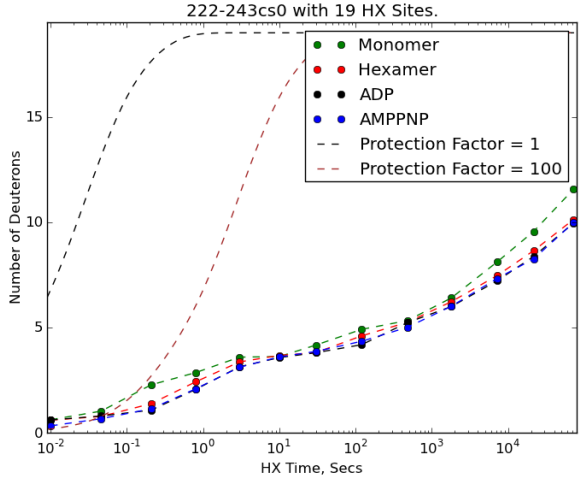

211-231cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

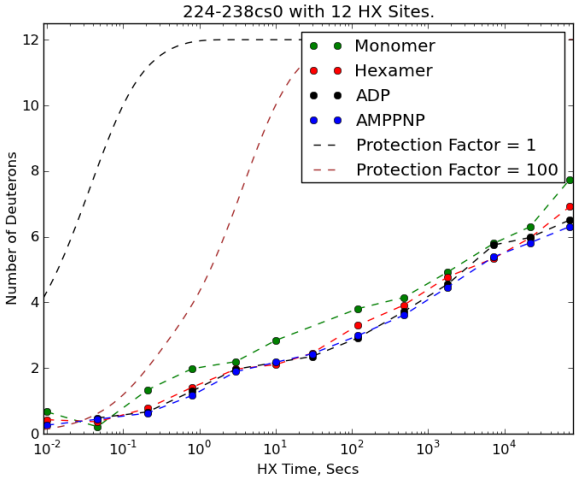

211-238cs0 with 24 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

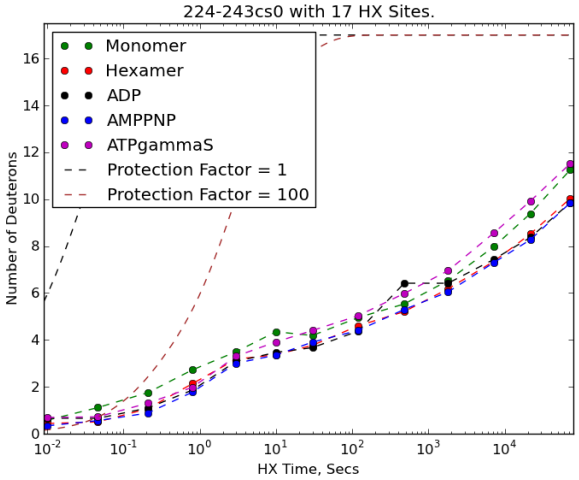

211-239cs0 with 25 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

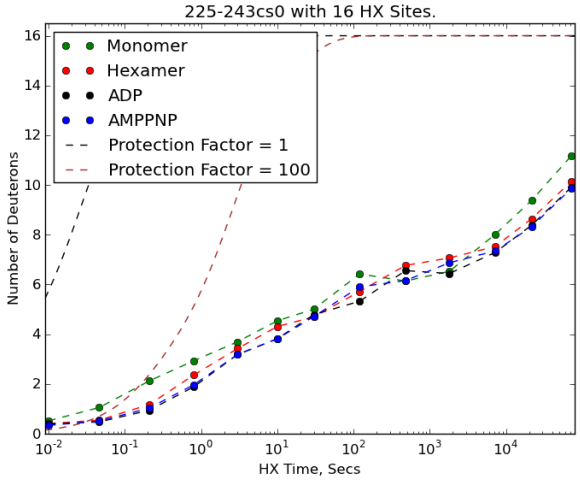

211-243cs0 with 29 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

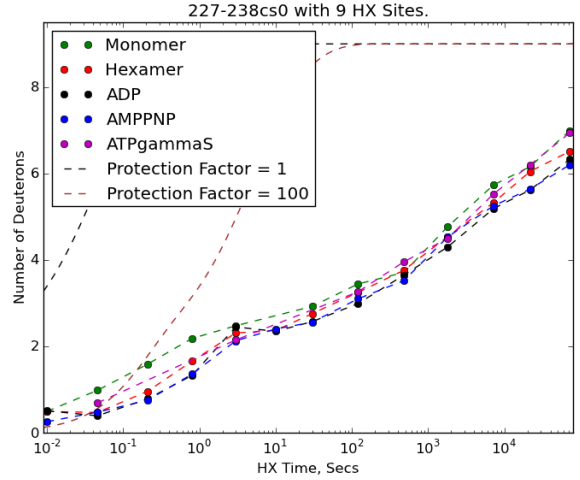

222-238cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

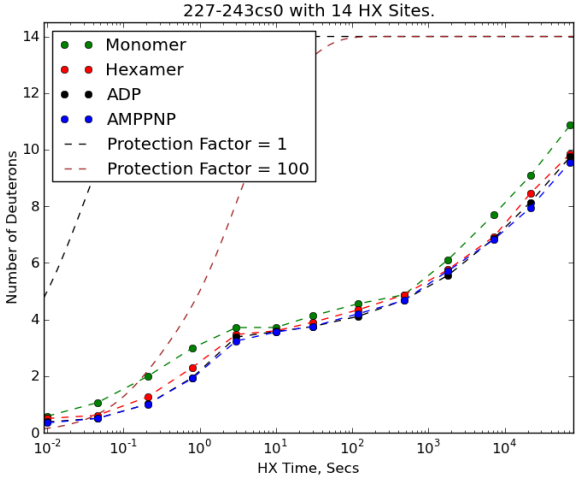

222-243cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

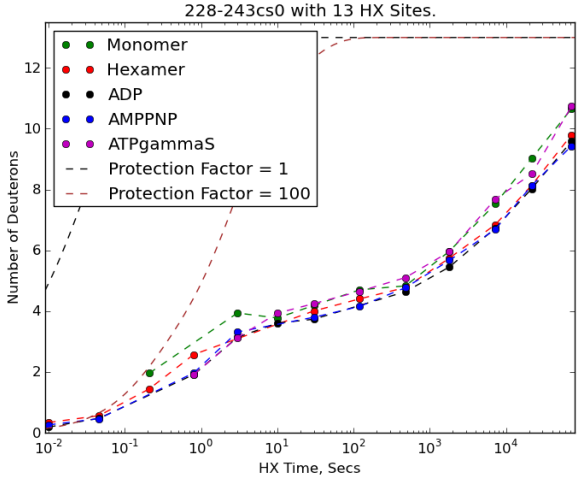

224-238cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

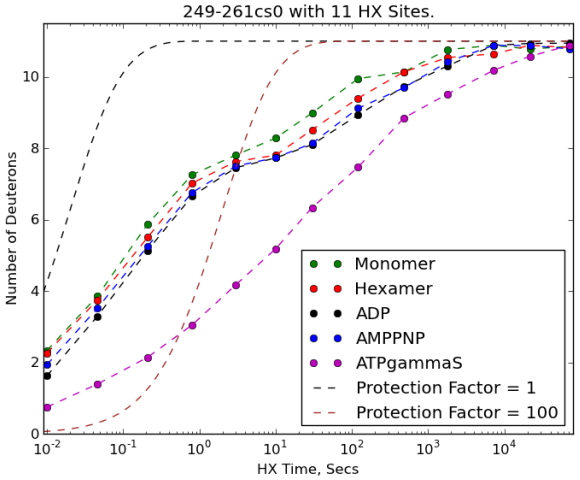

224-243cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

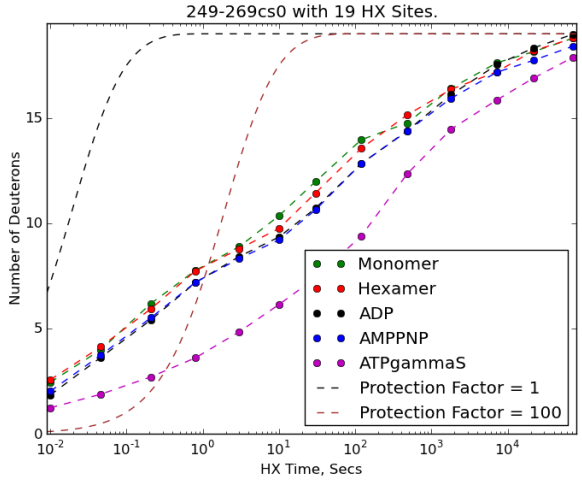

225-243cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

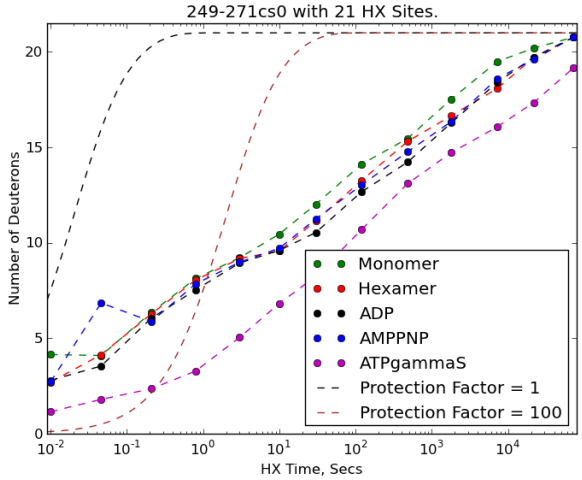

227-238cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

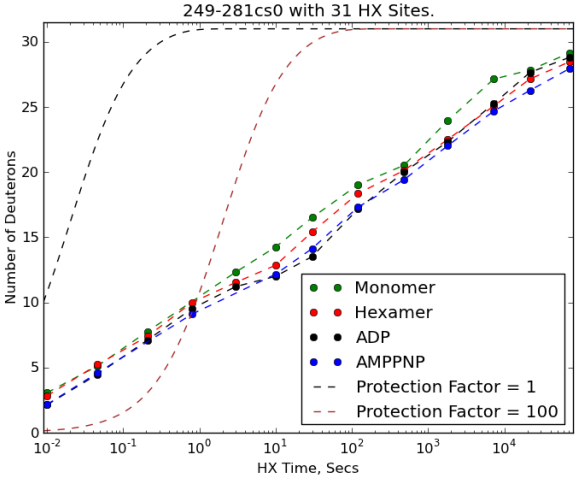

227-243cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

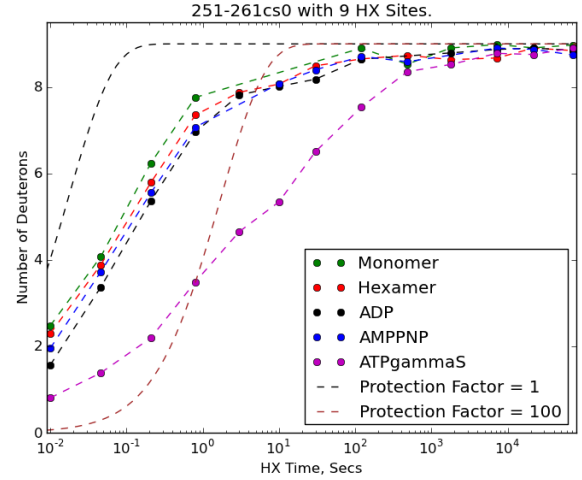

228-243cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

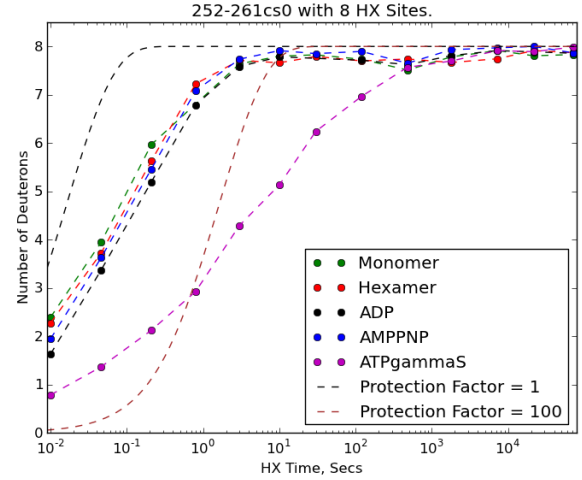

249-261cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

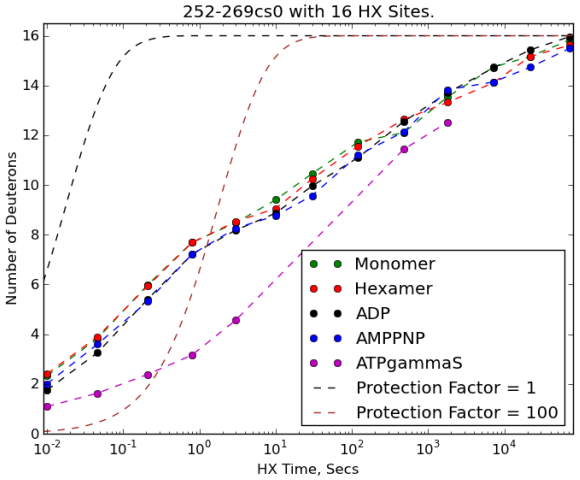

249-269cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

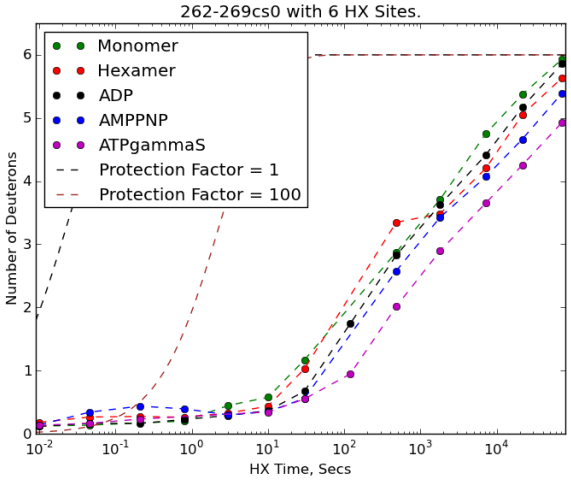

249-271cs0 with 21 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

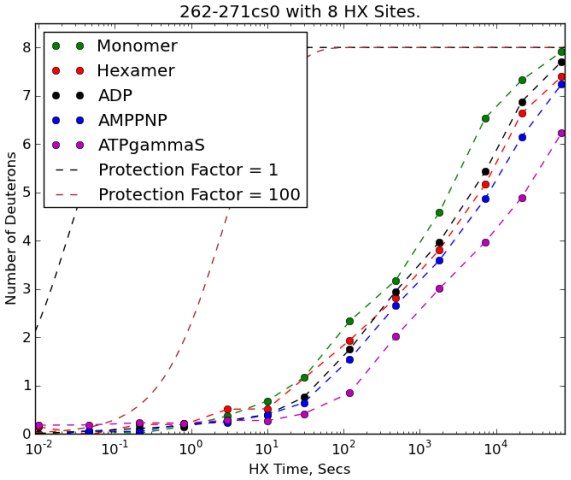

249-281cs0 with 31 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

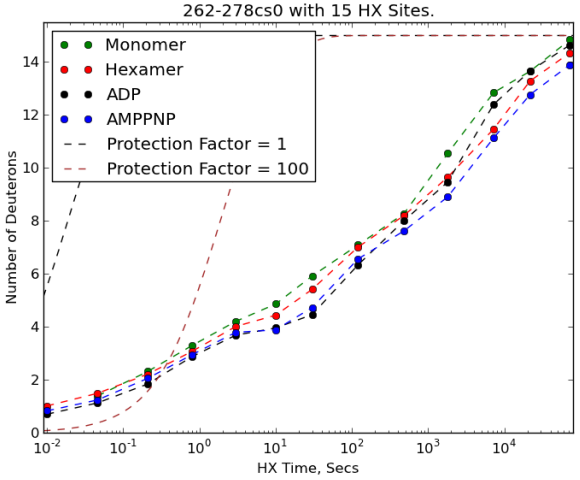

251-261cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

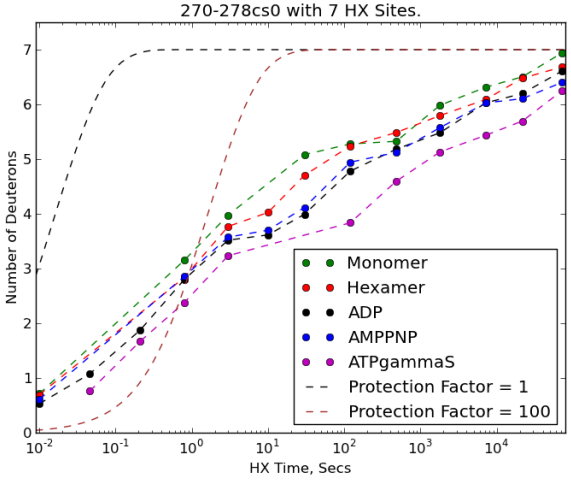

252-261cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

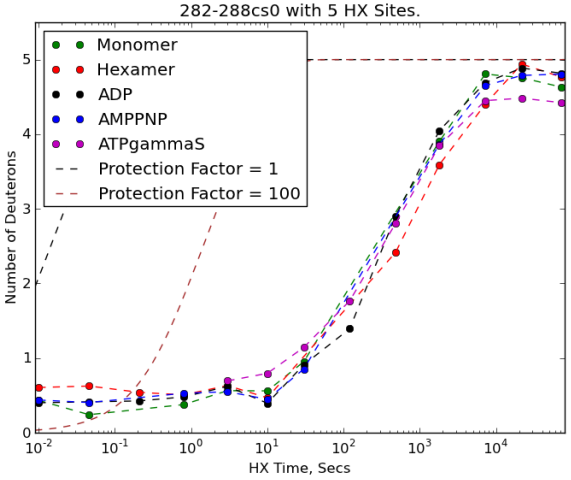

252-269cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

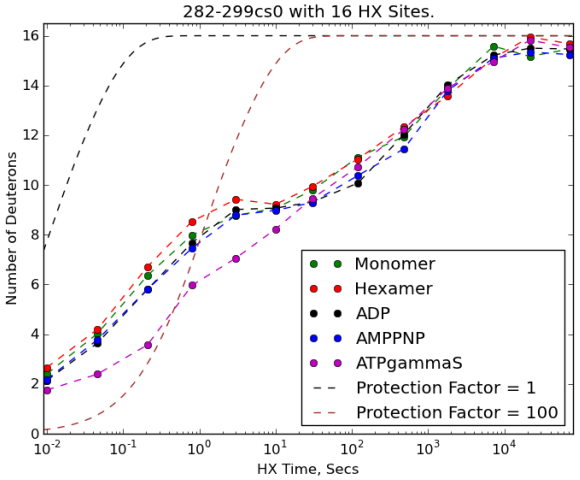

262-269cs0 with 6 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

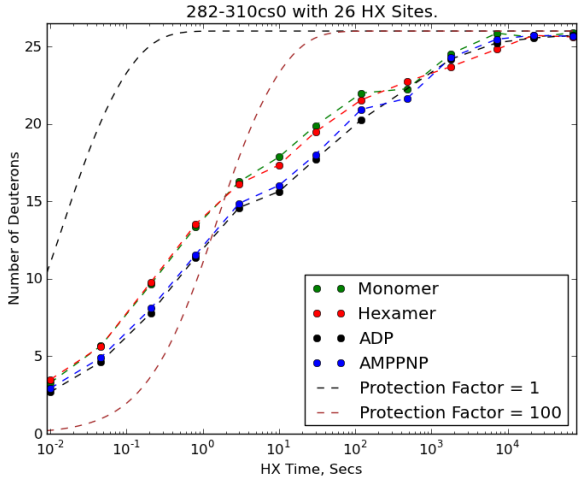

262-271cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

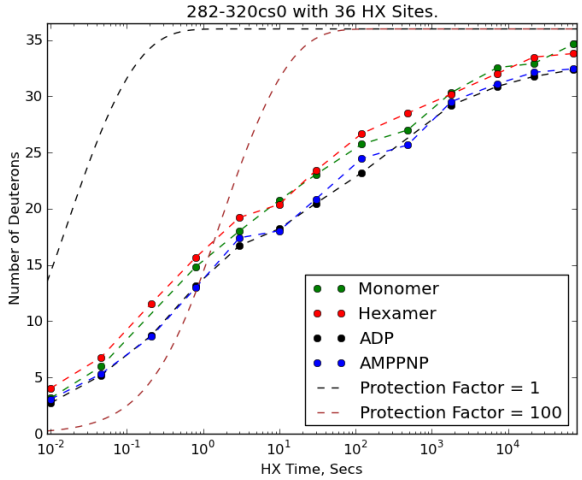

262-278cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

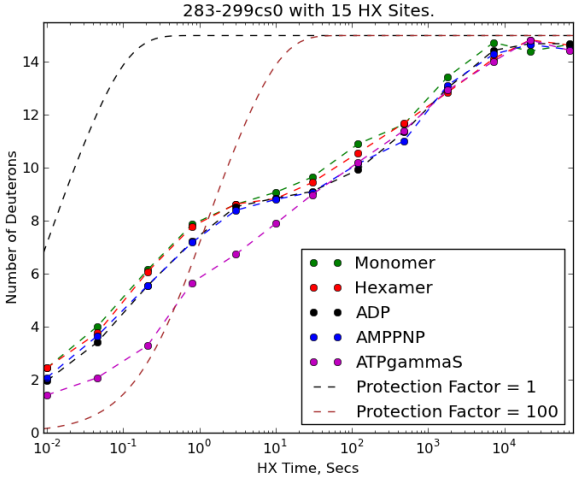

270-278cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

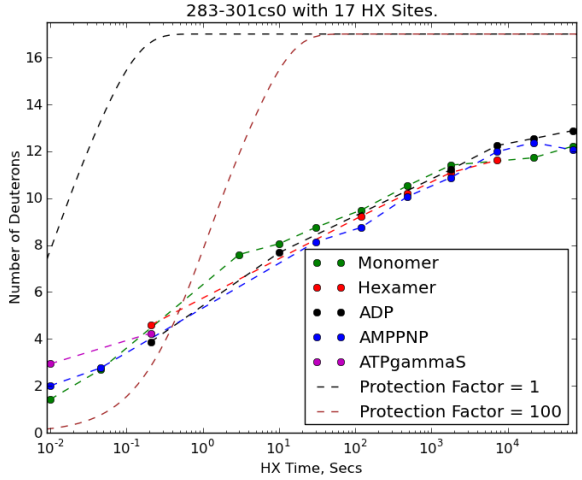

282-288cs0 with 5 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

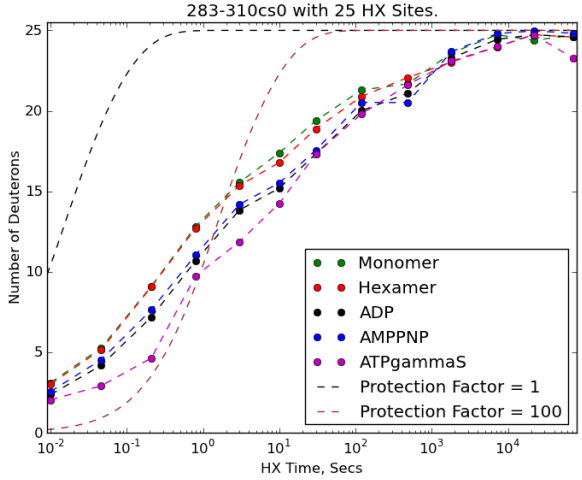

282-299cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

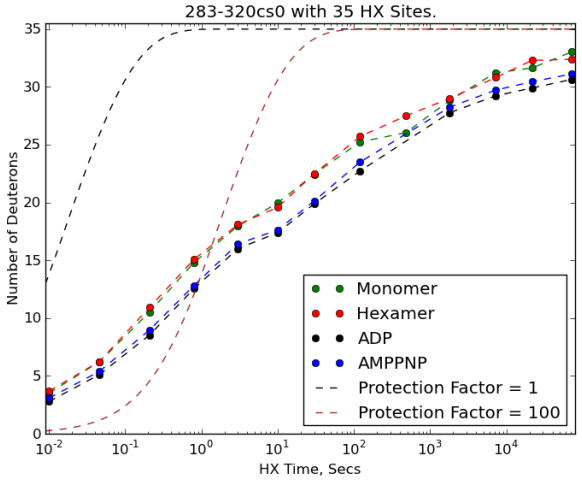

282-310cs0 with 26 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

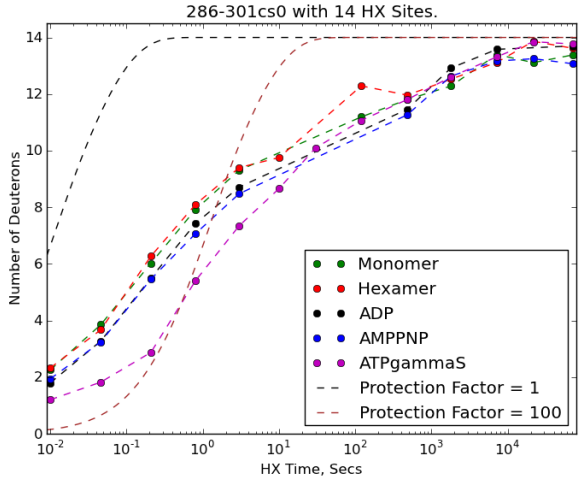

282-320cs0 with 36 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

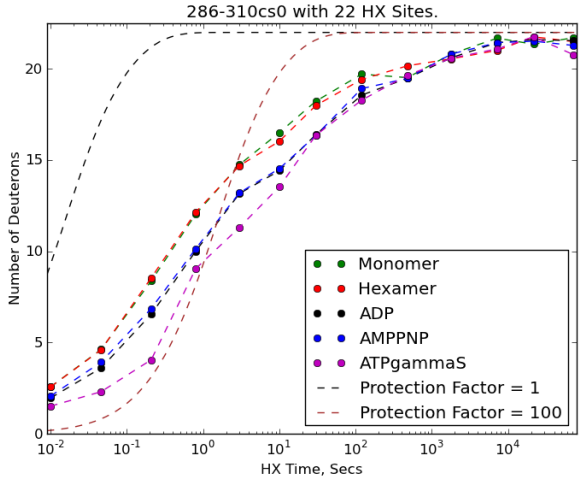

283-299cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

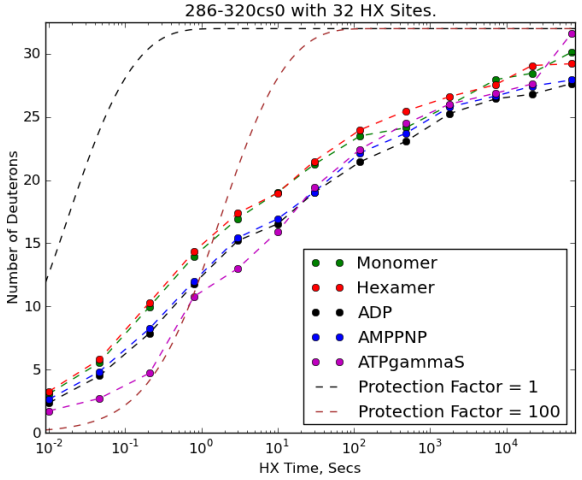

283-301cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

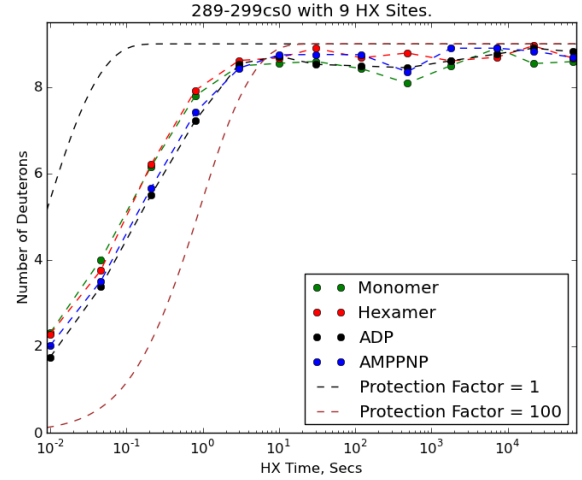

283-310cs0 with 25 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

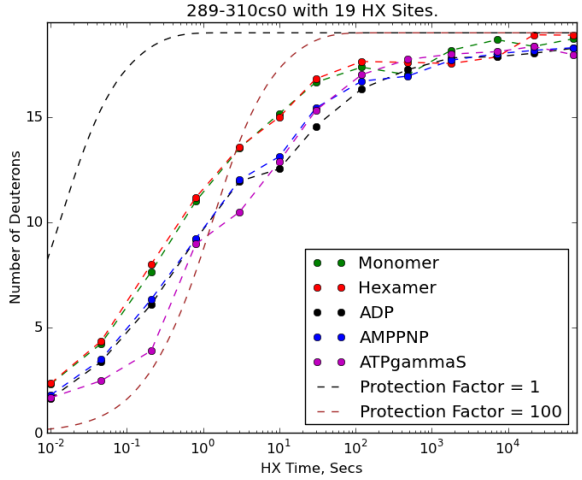

283-320cs0 with 35 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

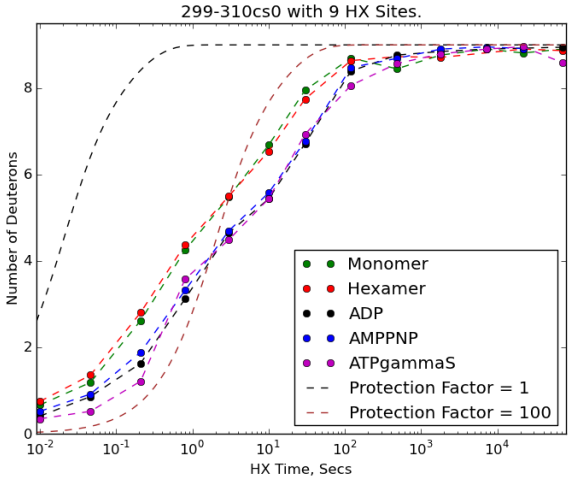

286-301cs0 with 14 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

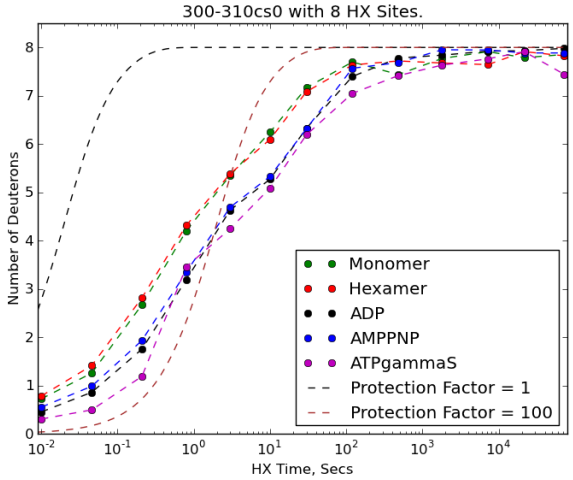

286-310cs0 with 22 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

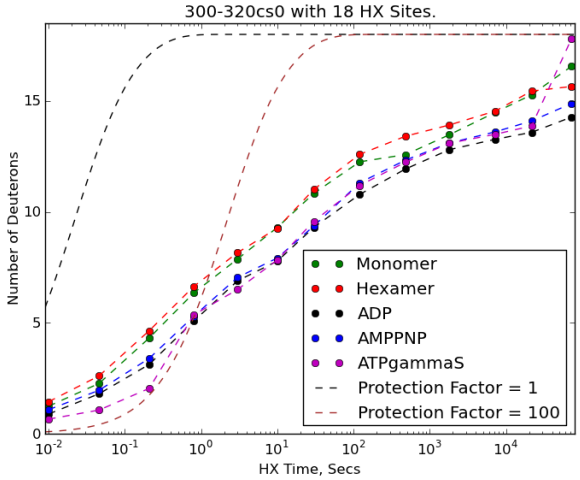

286-320cs0 with 32 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

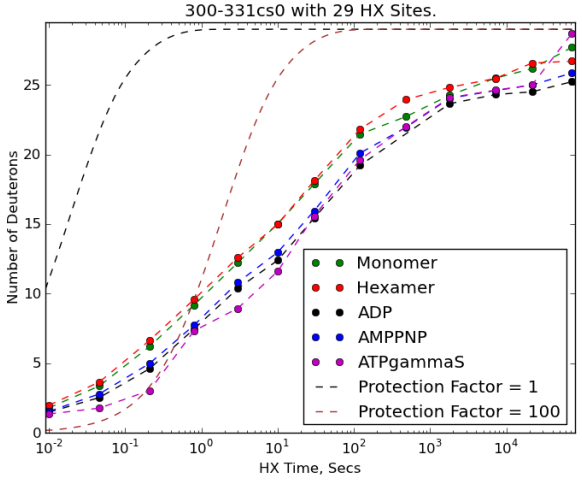

289-299cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

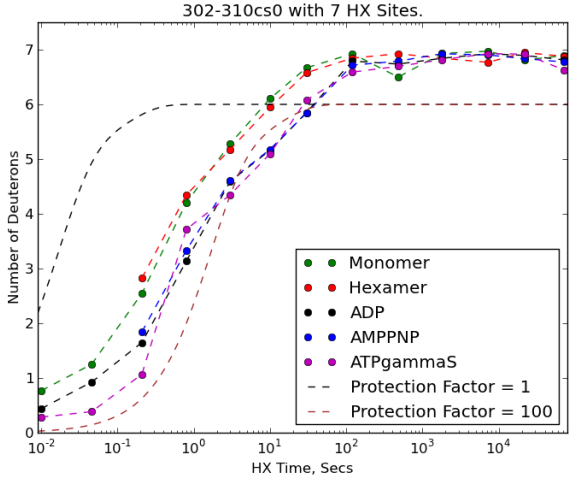

289-310cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

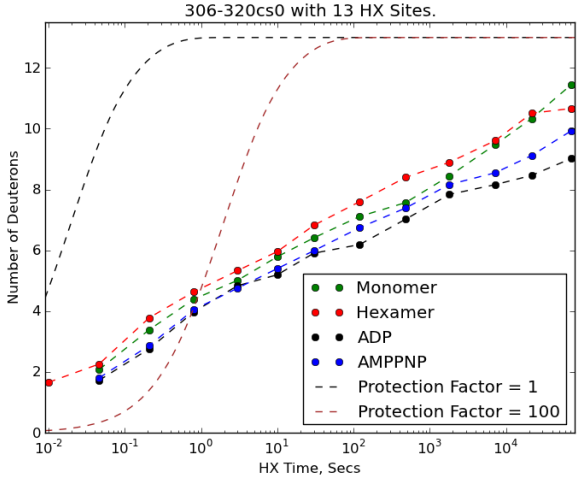

299-310cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

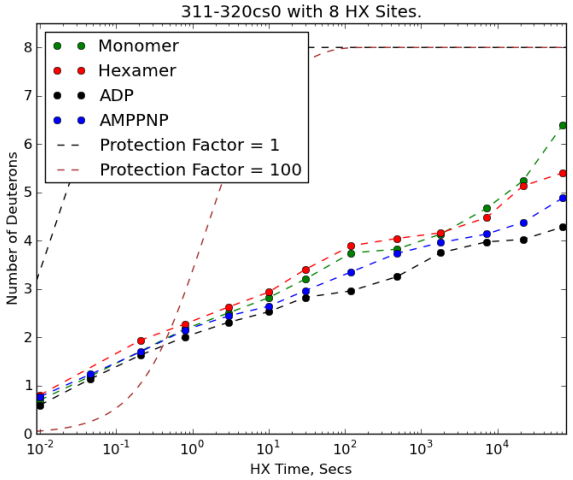

300-310cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

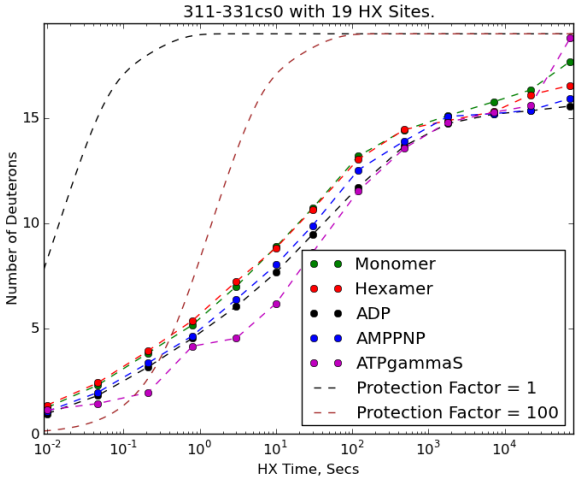

300-320cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

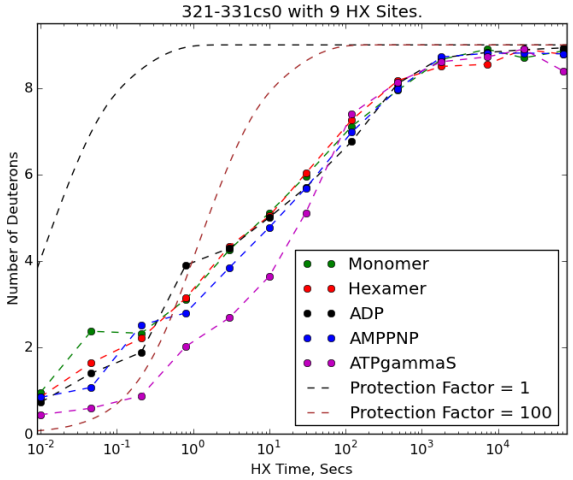

300-331cs0 with 29 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

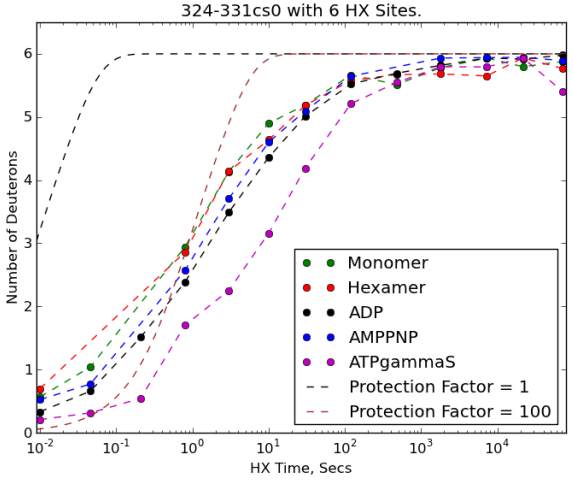

302-310cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

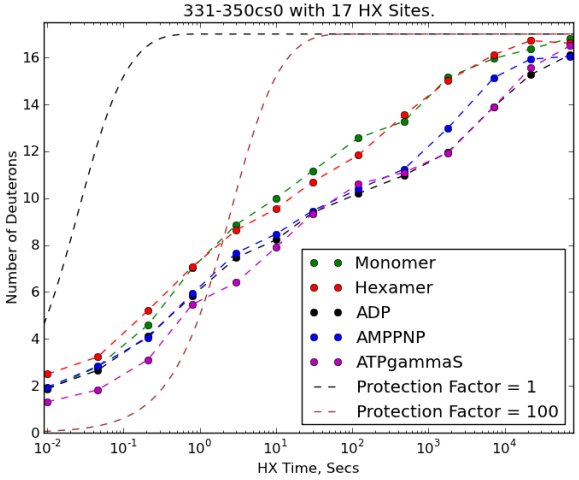

306-320cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

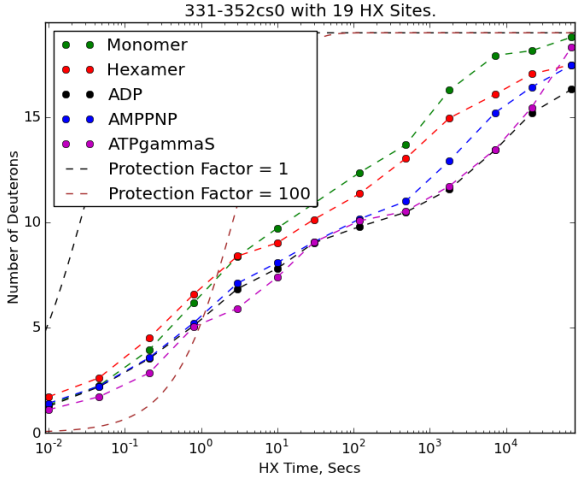

311-320cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

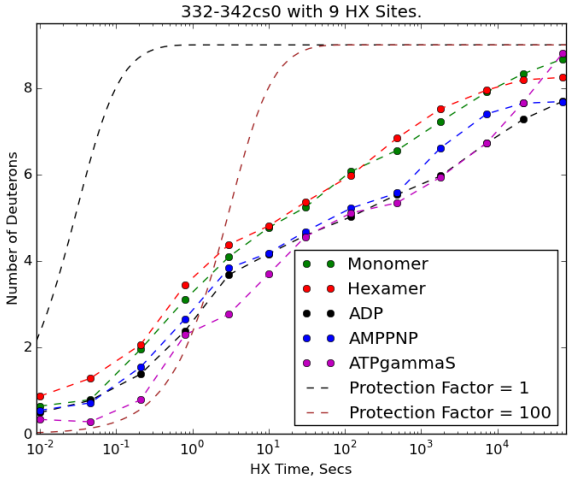

311-331cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

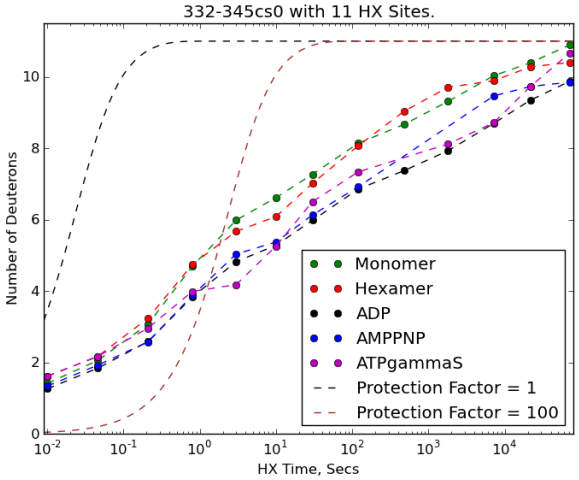

321-331cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

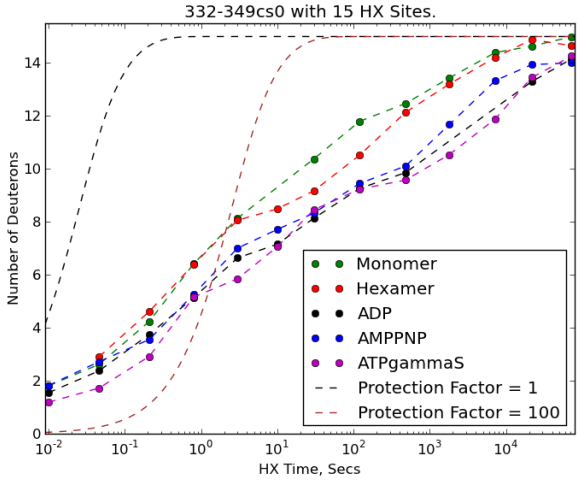

324-331cs0 with 6 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

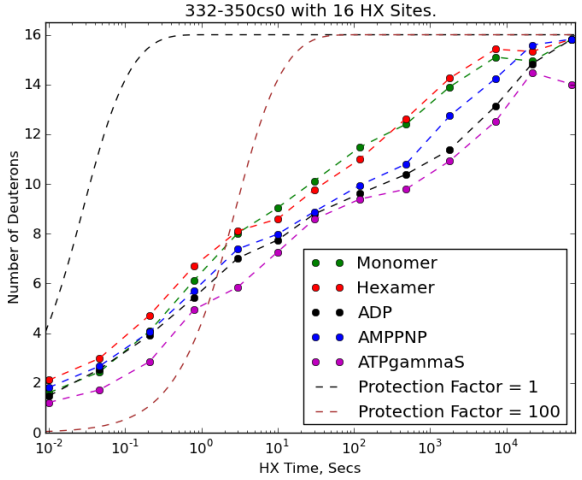

331-350cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

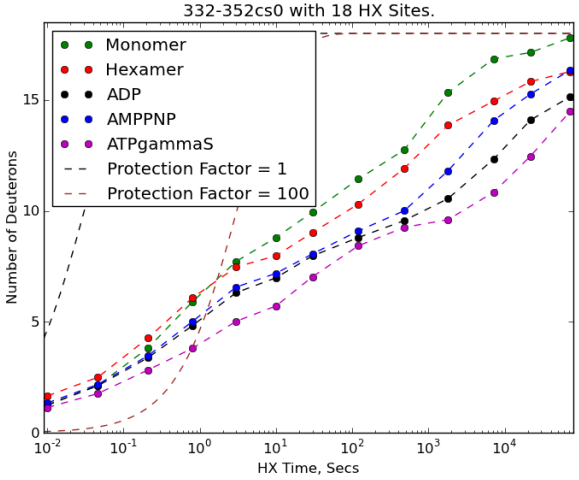

331-352cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

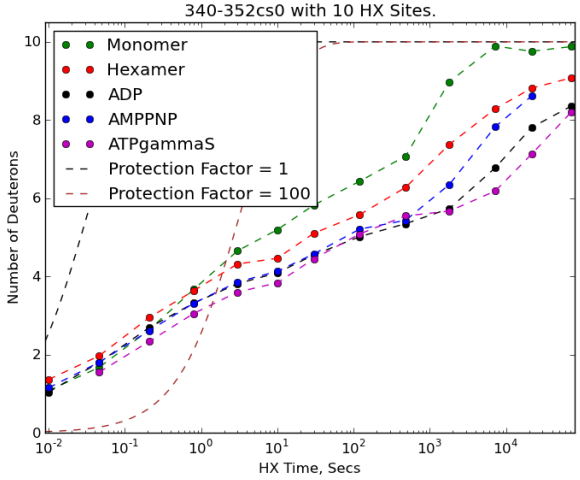

332-342cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

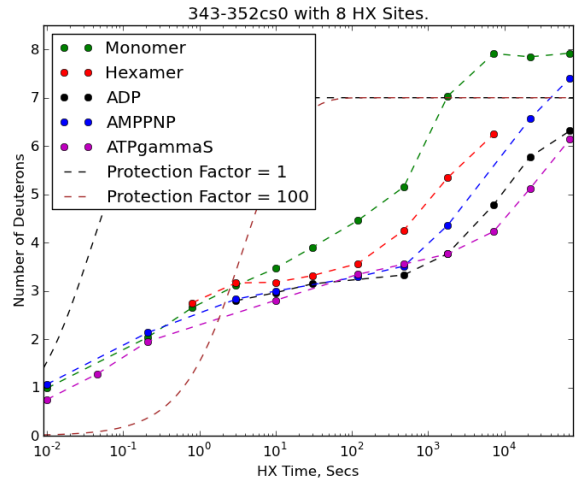

332-345cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

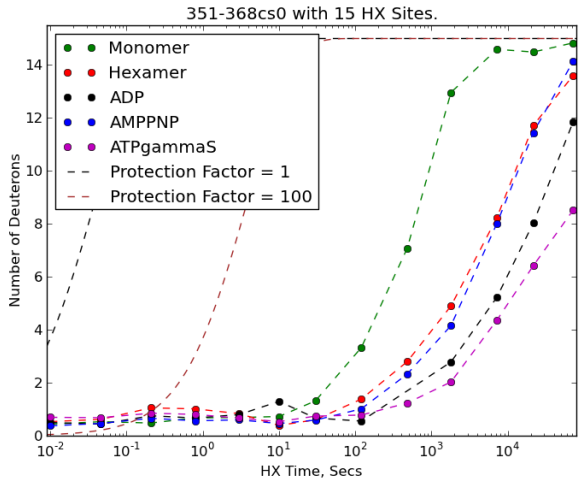

332-349cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

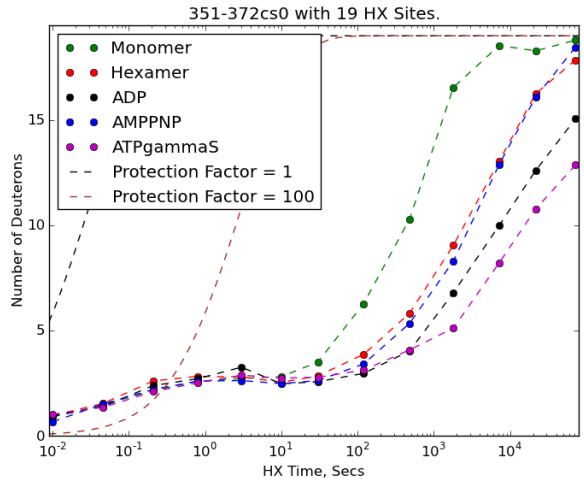

332-350cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

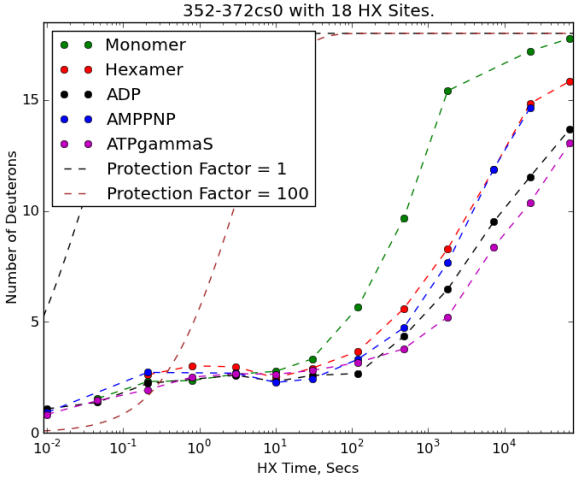

332-352cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

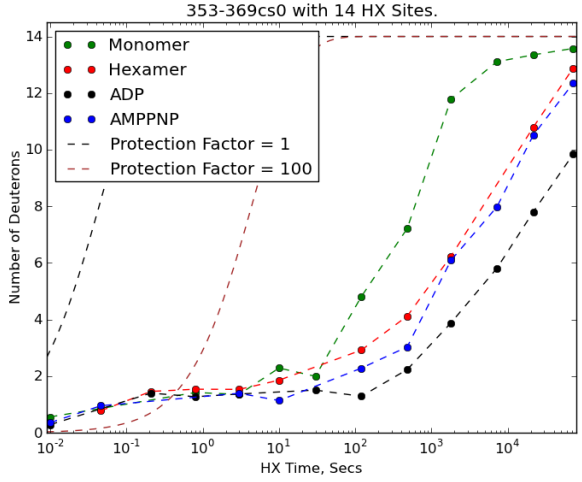

340-352cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

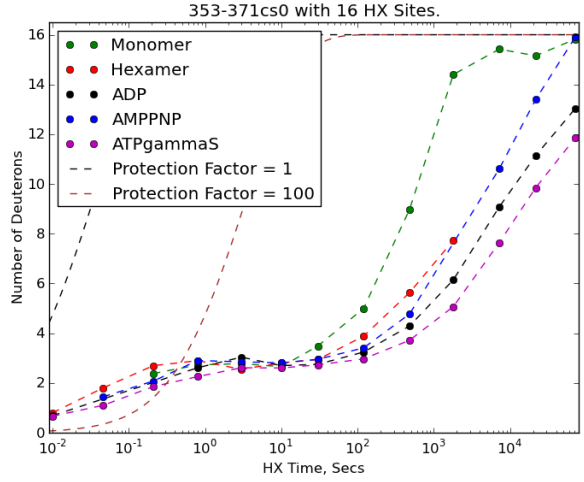

343-352cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

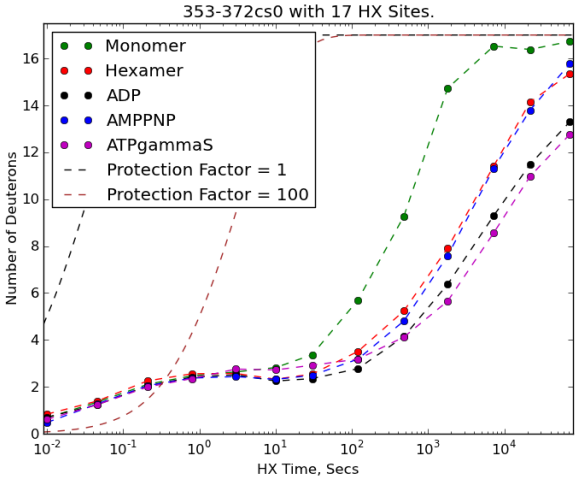

351-368cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

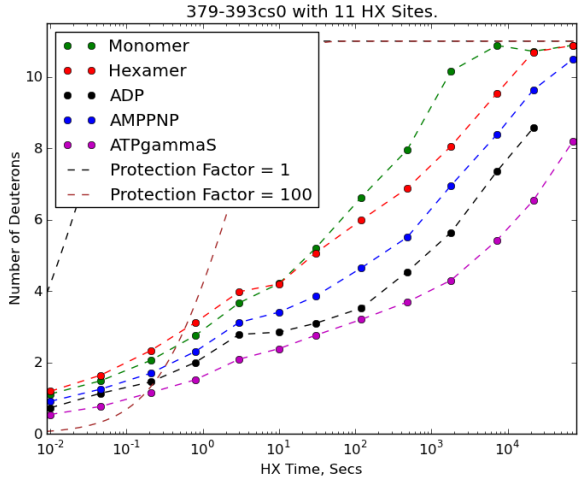

351-372cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

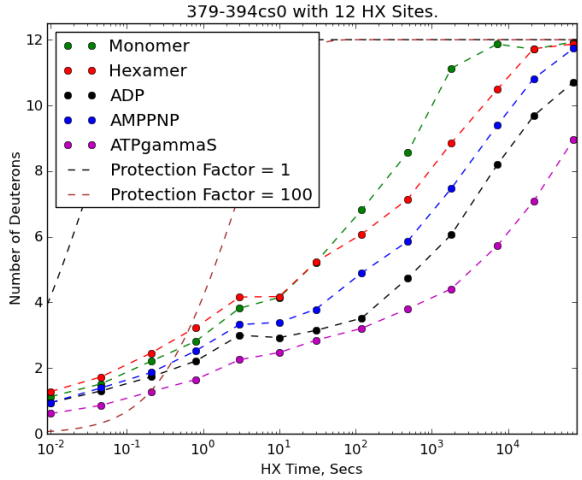

352-372cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

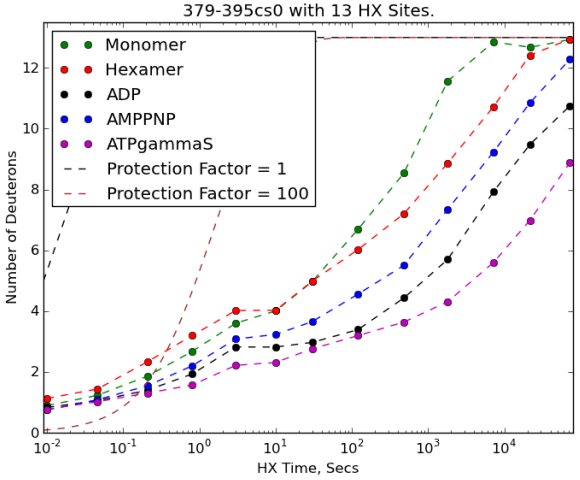

353-369cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

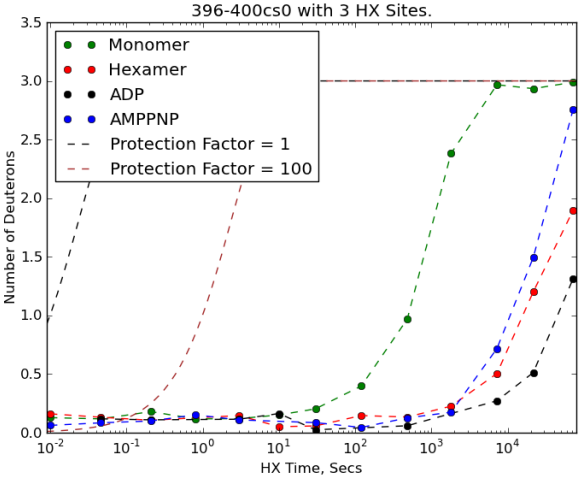

353-371cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

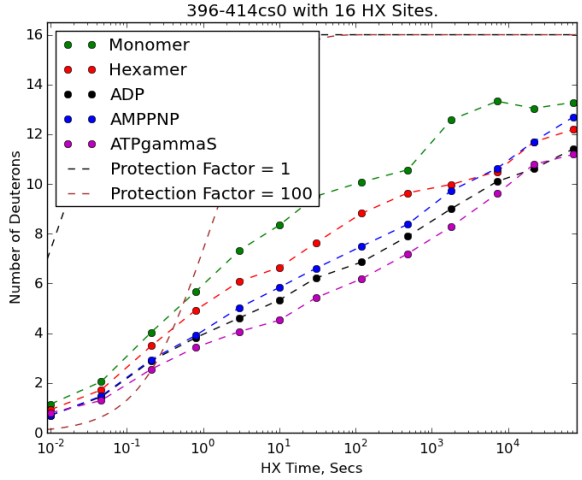

353-372cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

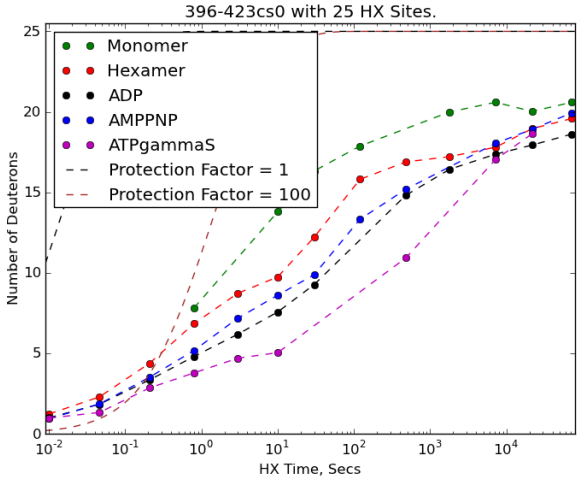

379-393cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

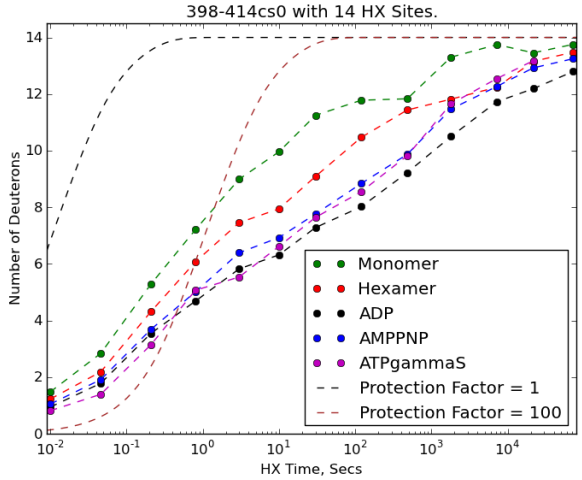

379-394cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

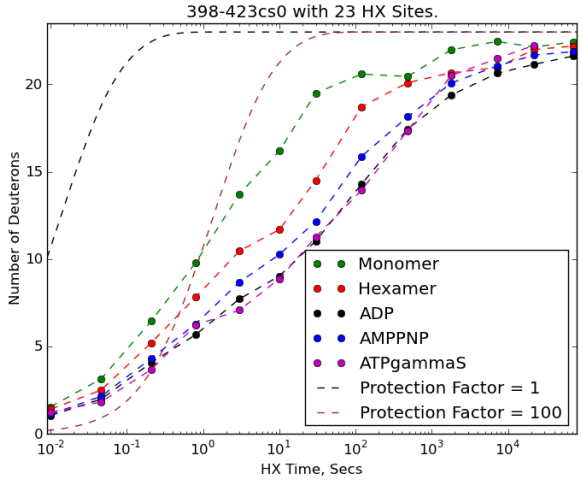

379-395cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

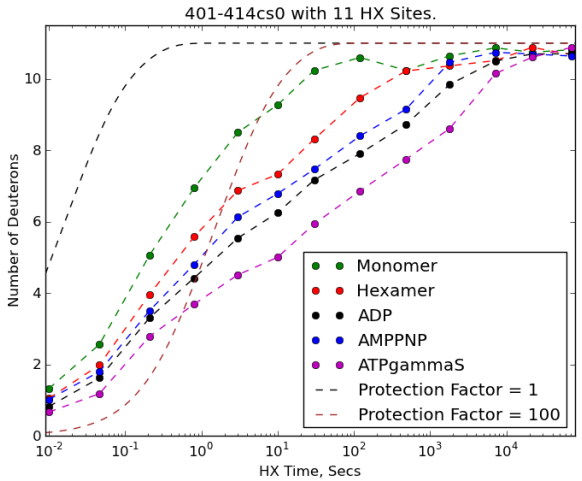

396-400cs0 with 3 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

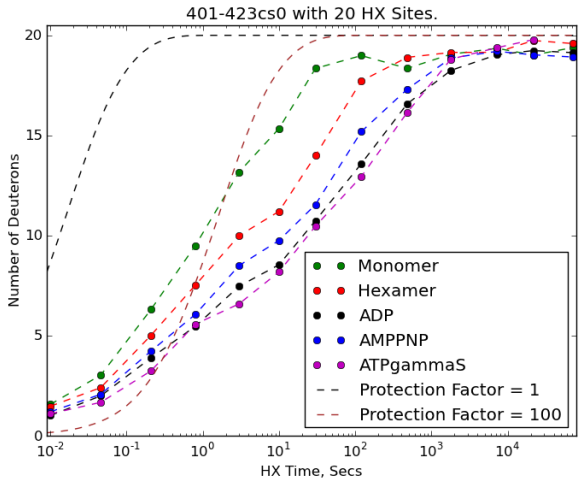

396-414cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

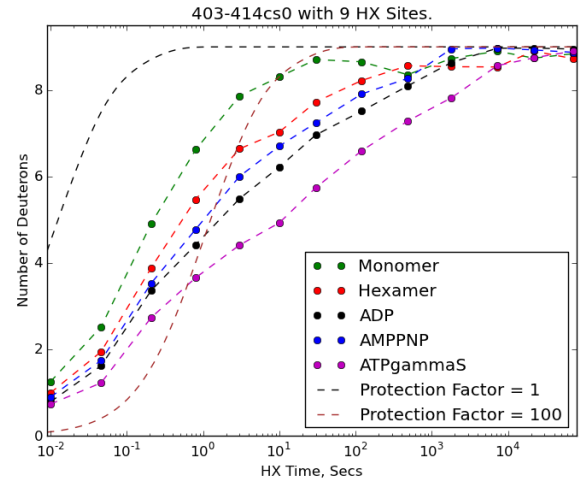

396-423cs0 with 25 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

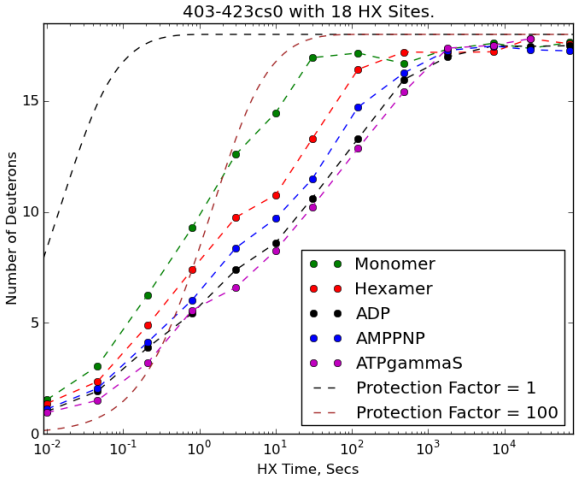

398-414cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

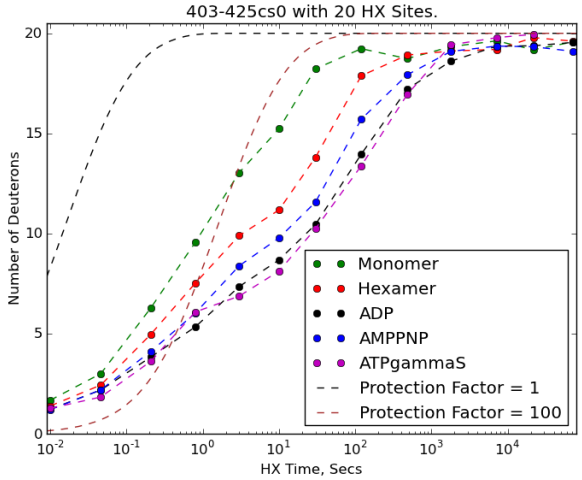

398-423cs0 with 23 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

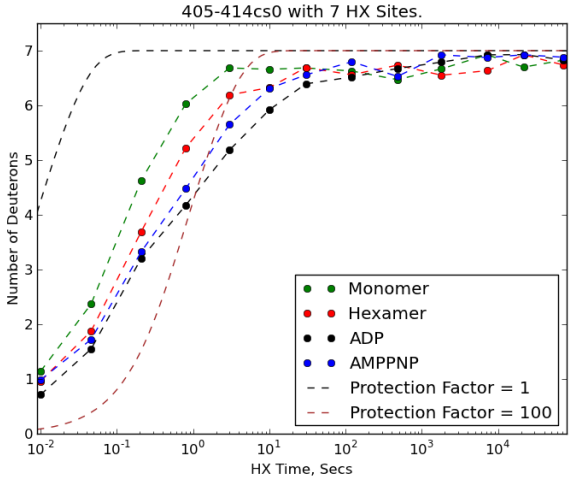

401-414cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

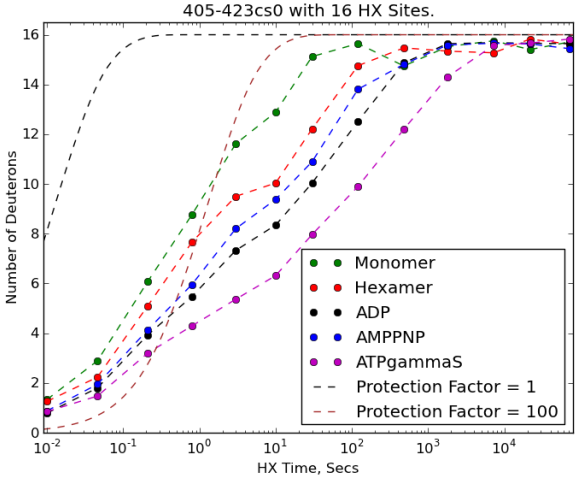

401-423cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

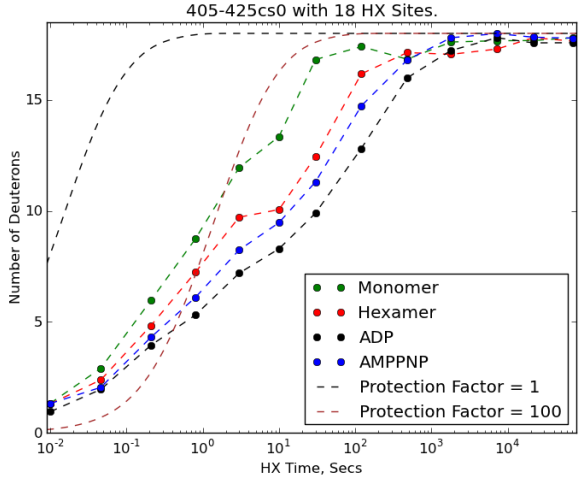

403-414cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

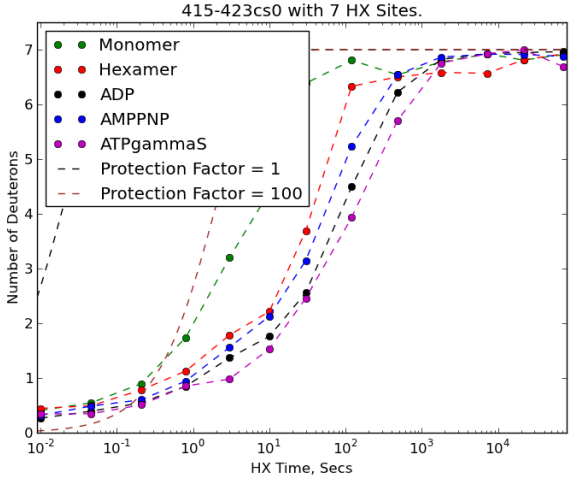

403-423cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

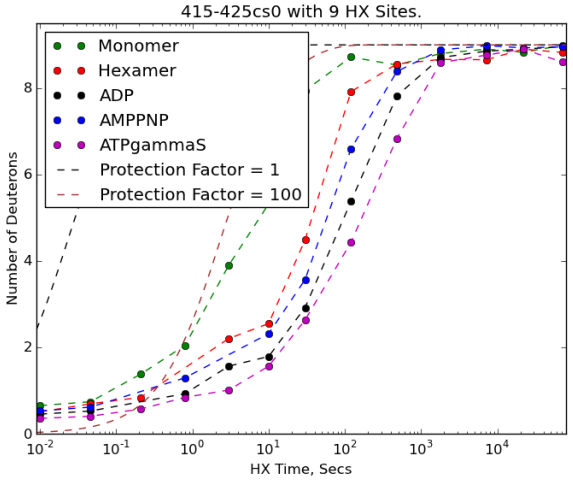

403-425cs0 with 20 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

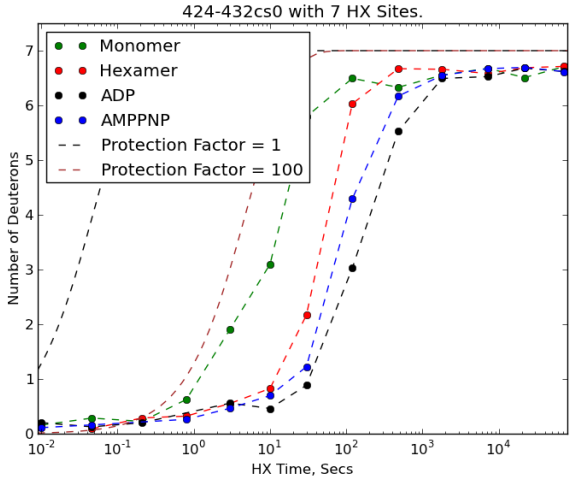

405-414cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

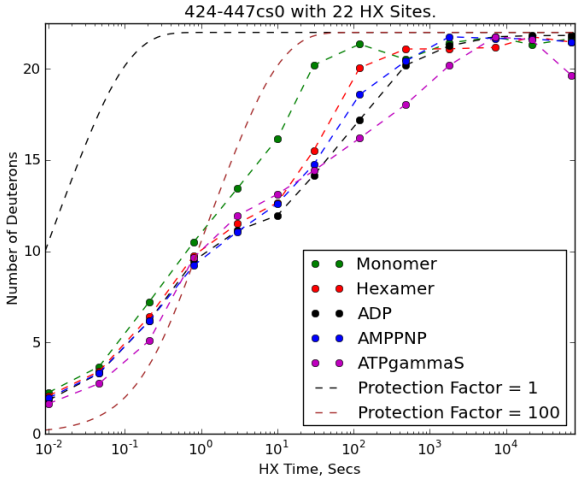

405-423cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

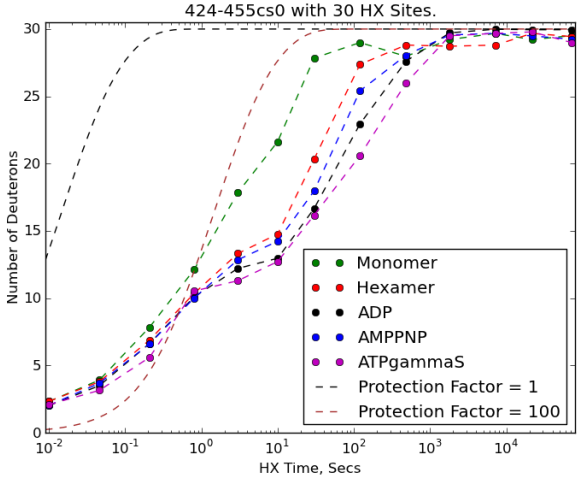

405-425cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

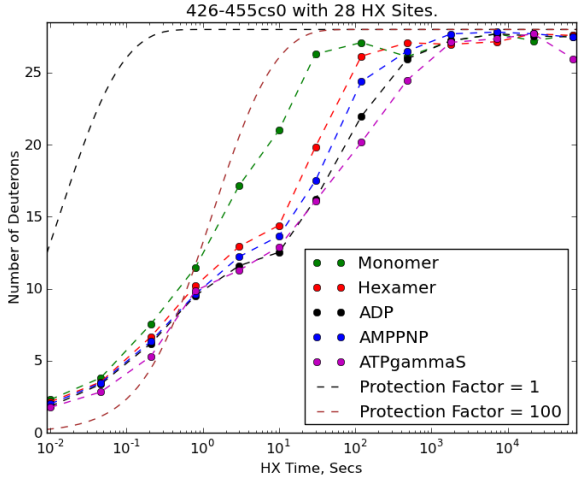

415-423cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

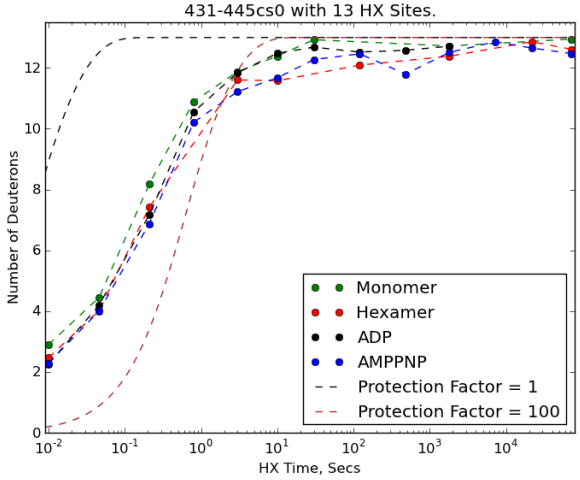

415-425cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

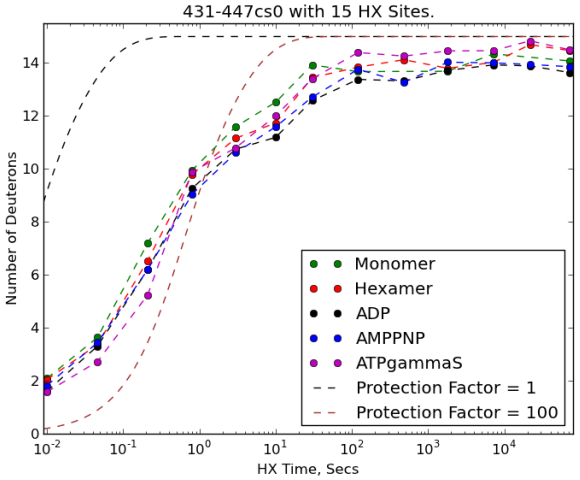

424-432cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

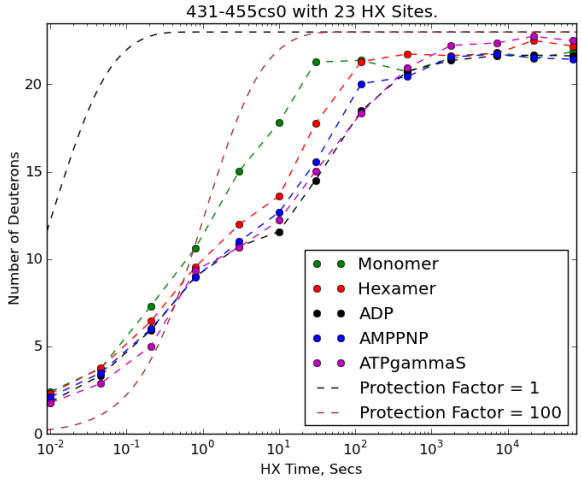

424-447cs0 with 22 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

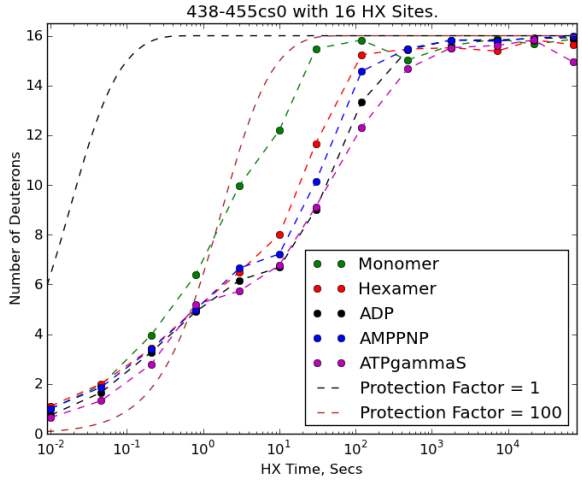

424-455cs0 with 30 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

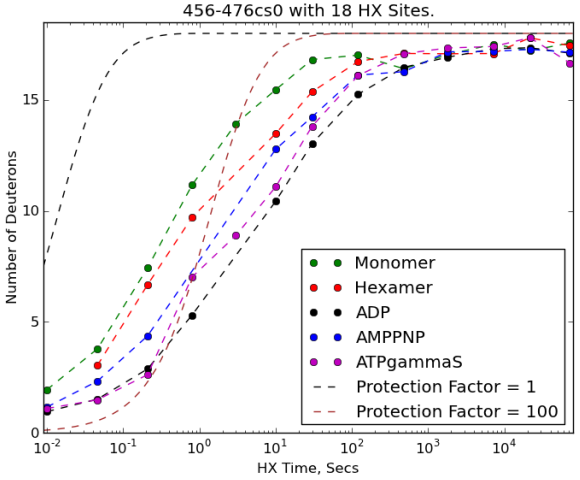

426-455cs0 with 28 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

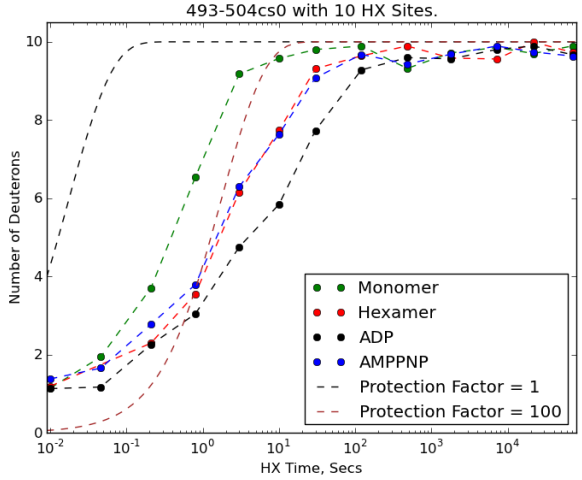

431-445cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

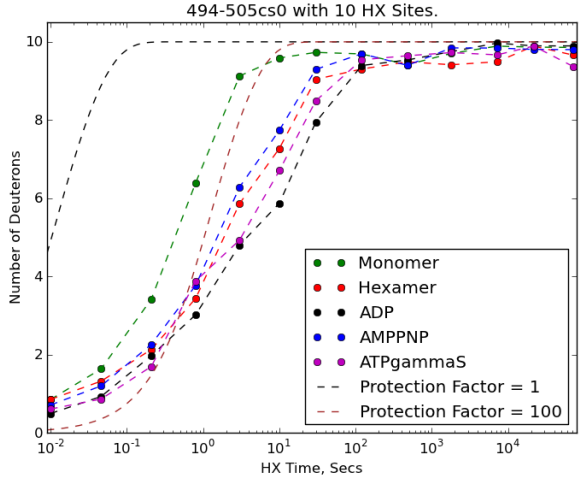

431-447cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

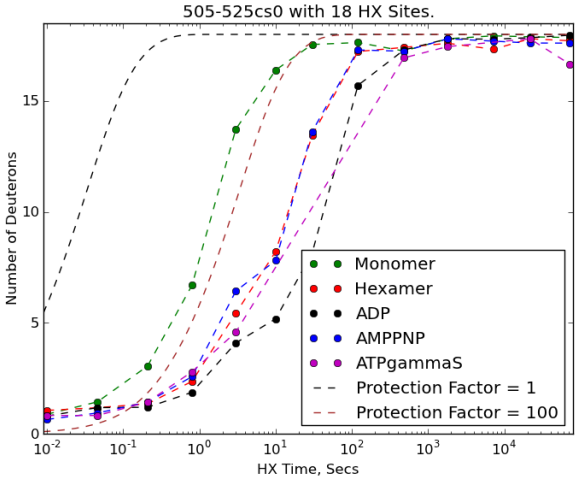

431-455cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

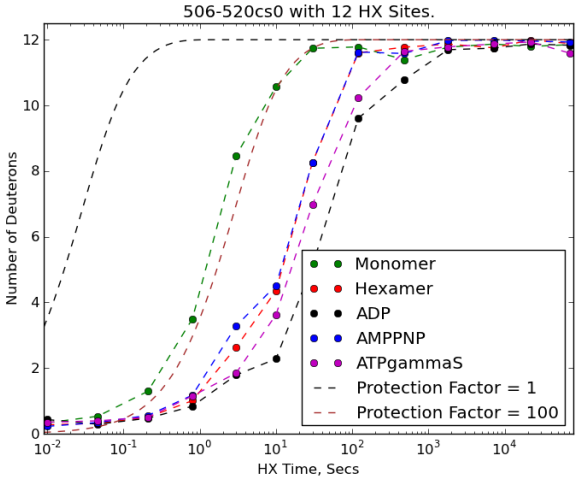

438-455cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

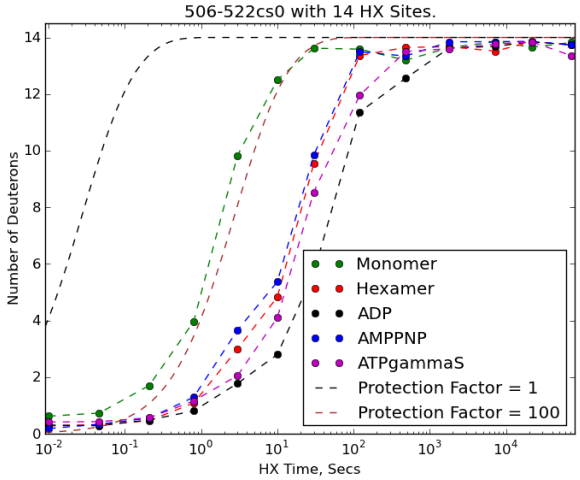

456-476cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

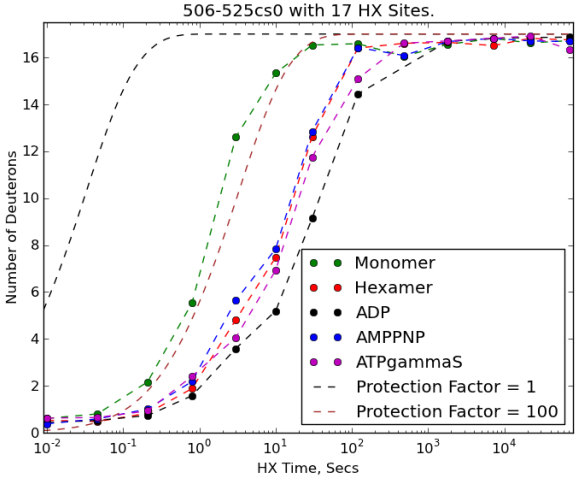

493-504cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

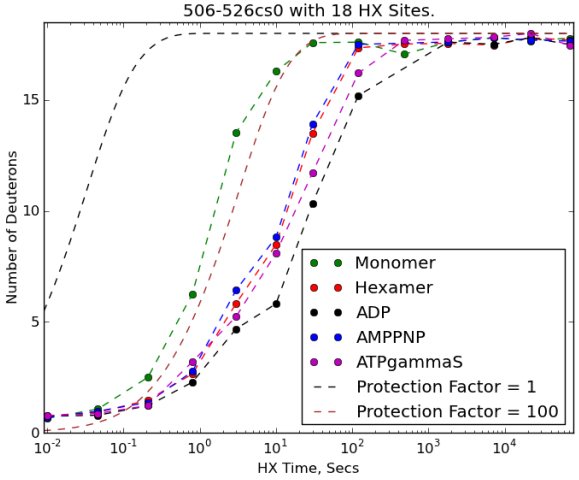

494-505cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

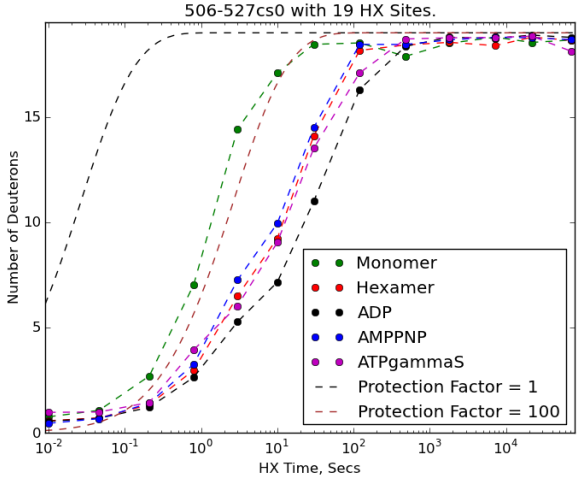

505-525cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

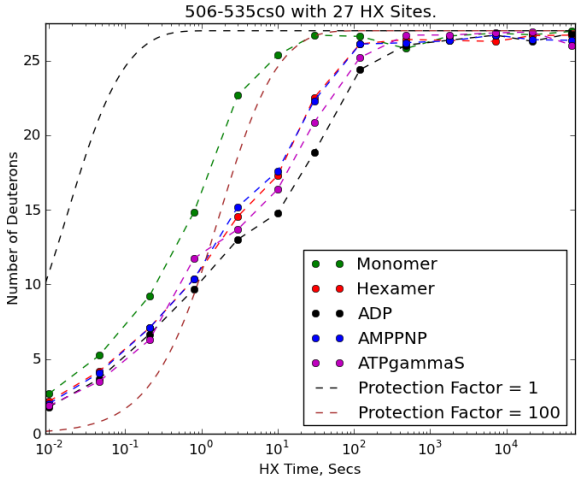

506-520cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

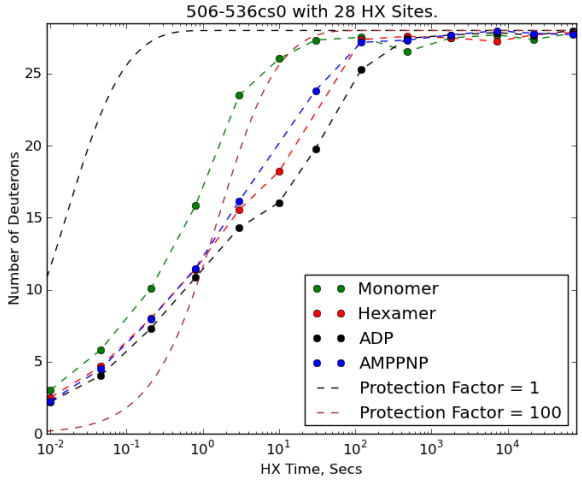

506-522cs0 with 14 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

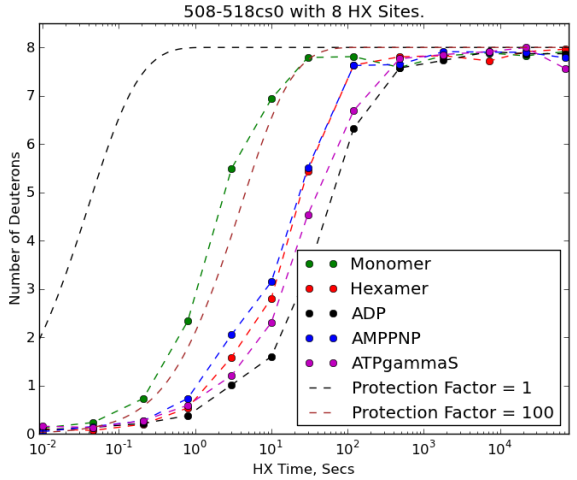

506-525cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

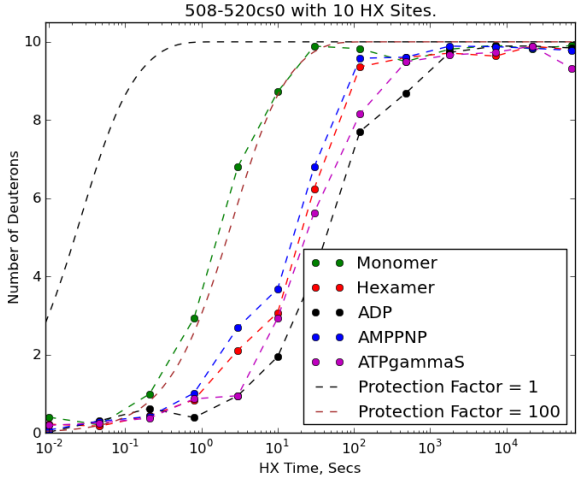

506-526cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

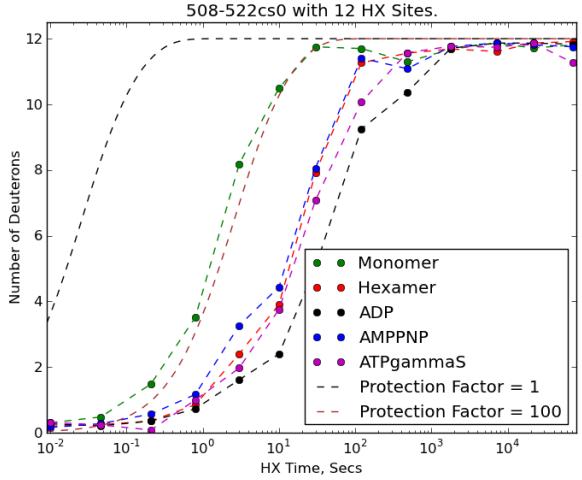

506-527cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

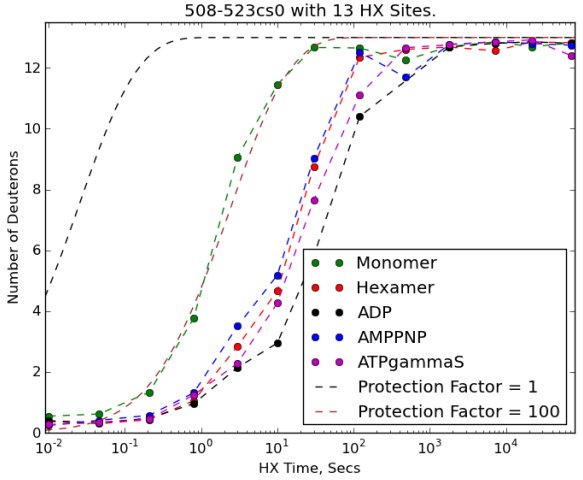

506-535cs0 with 27 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

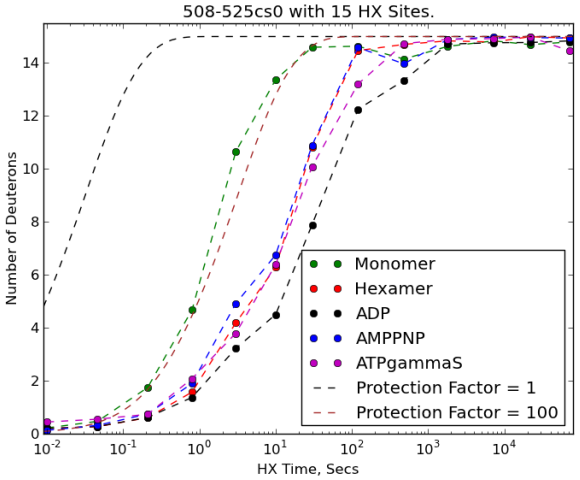

506-536cs0 with 28 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

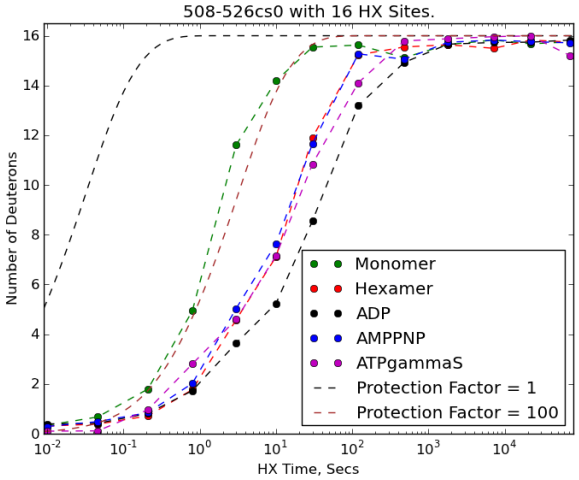

508-518cs0 with 8 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

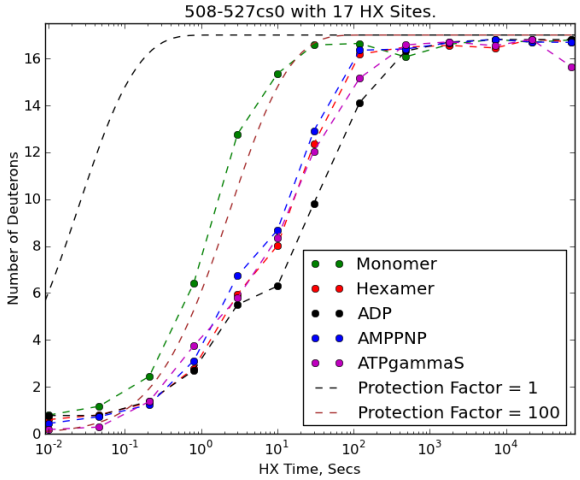

508-520cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

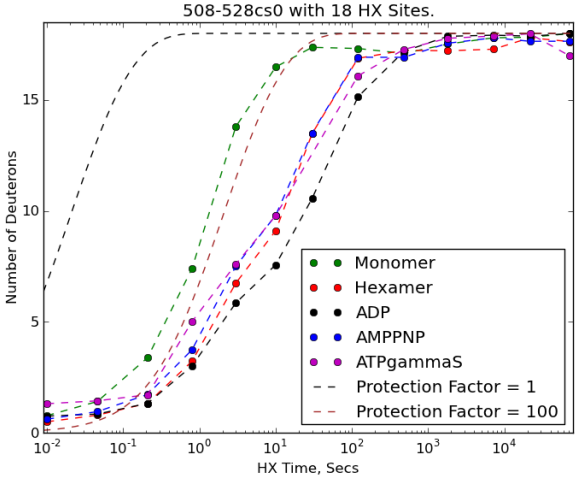

508-522cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

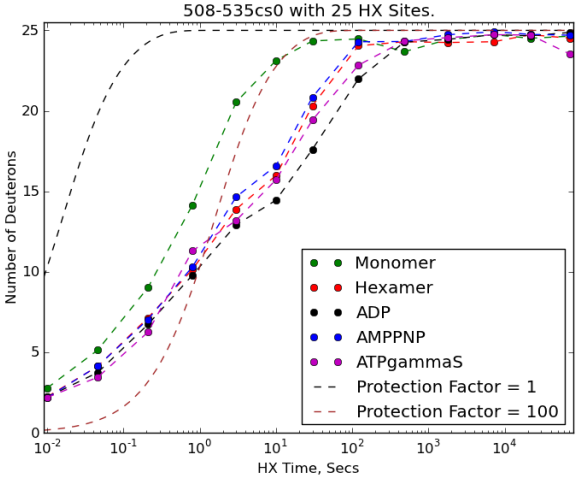

508-523cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

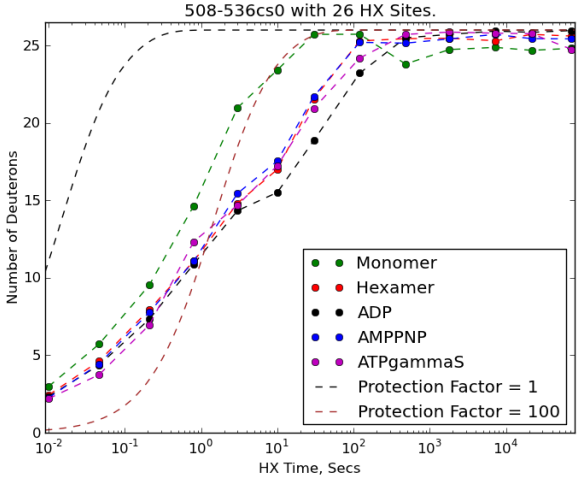

508-525cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

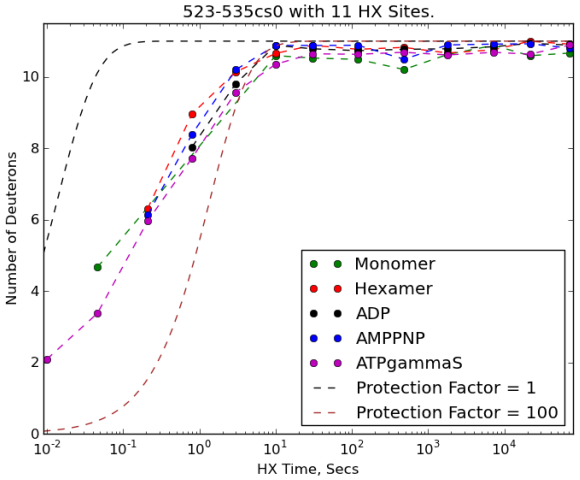

508-526cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

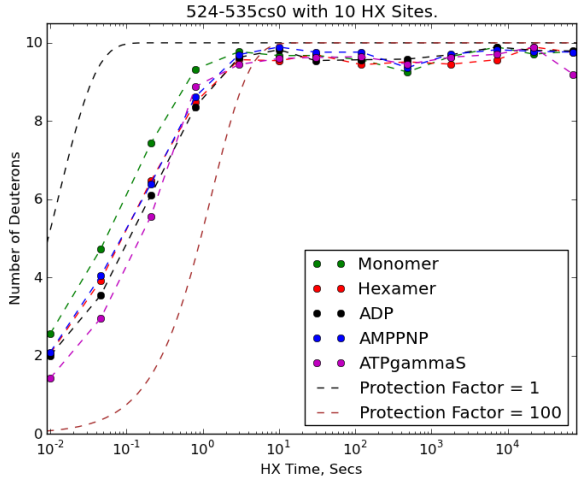

508-527cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

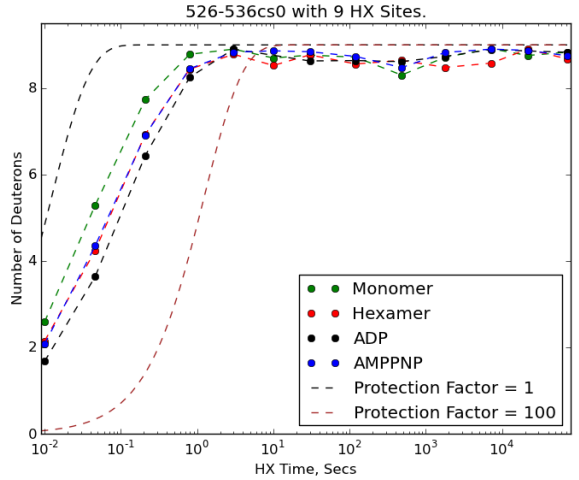

508-528cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

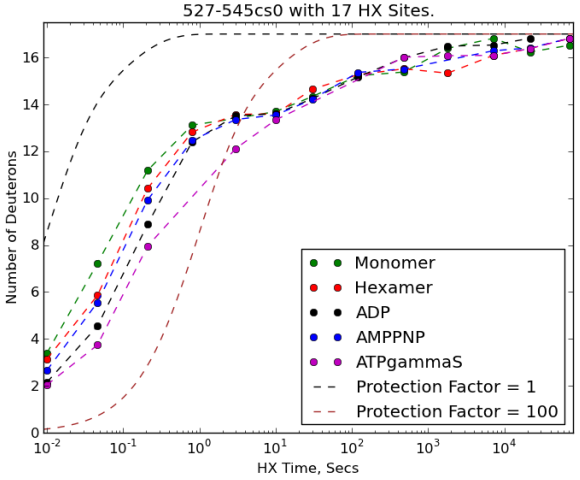

508-535cs0 with 25 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

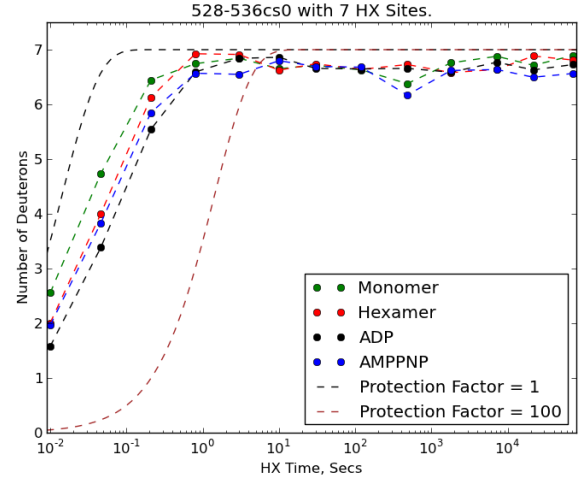

508-536cs0 with 26 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

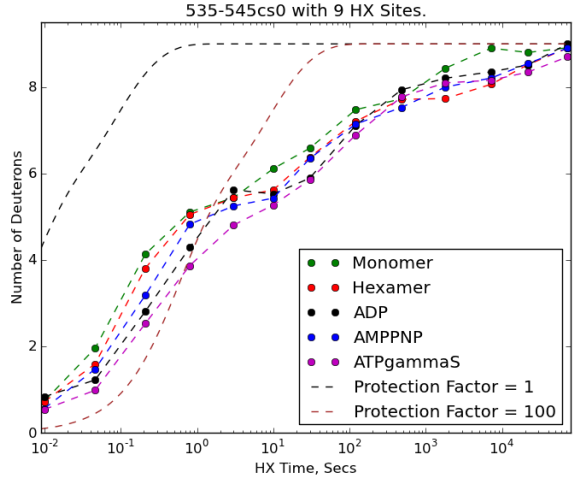

523-535cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

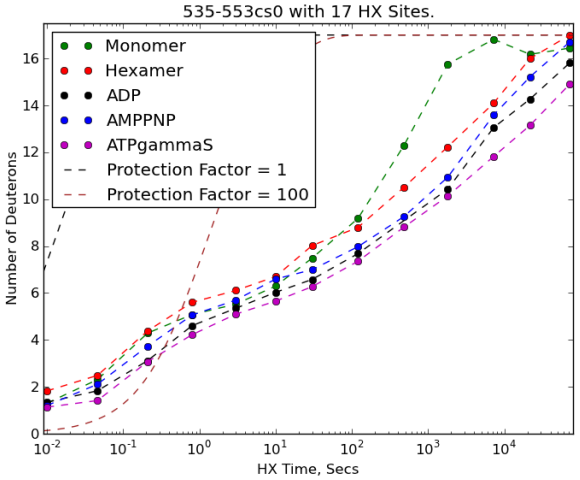

524-535cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

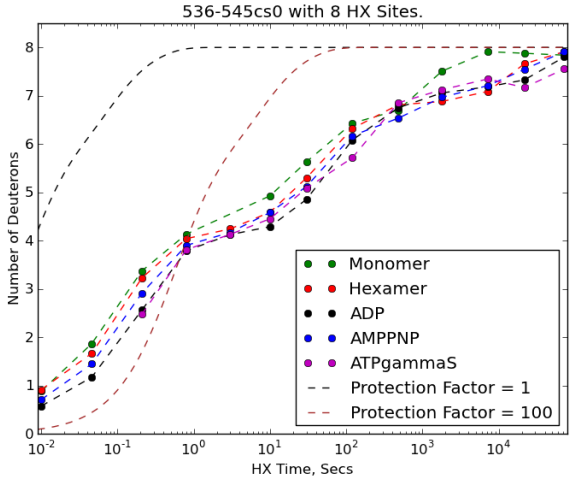

526-536cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

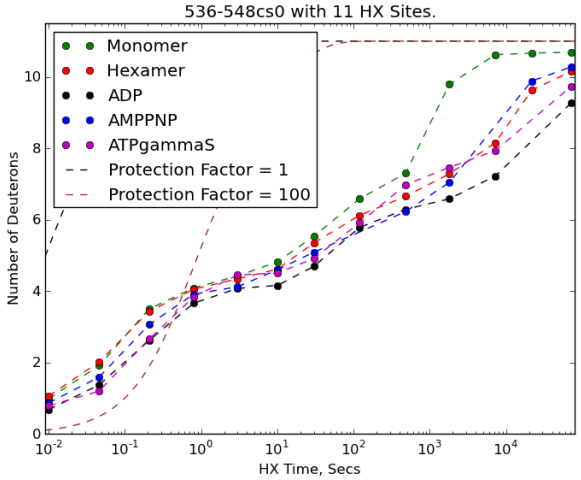

527-545cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

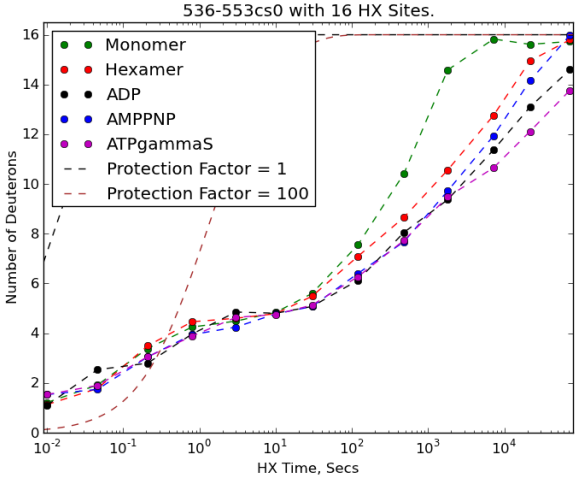

528-536cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

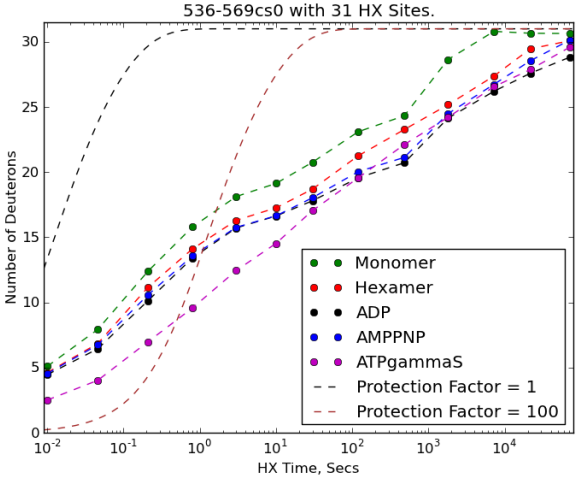

535-545cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

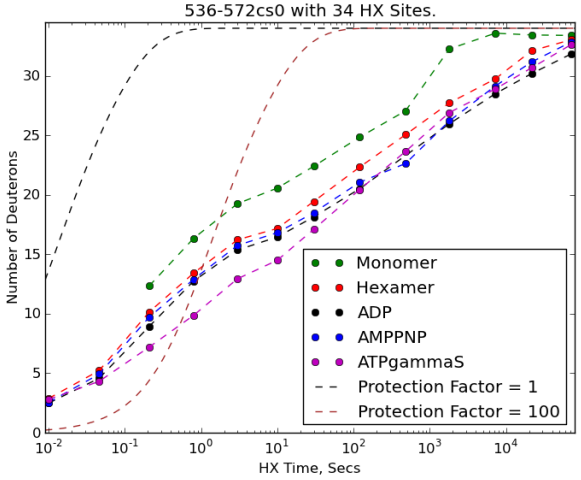

535-553cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

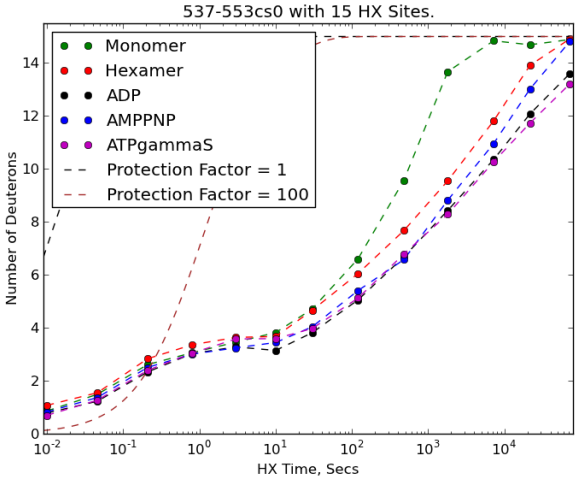

536-545cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

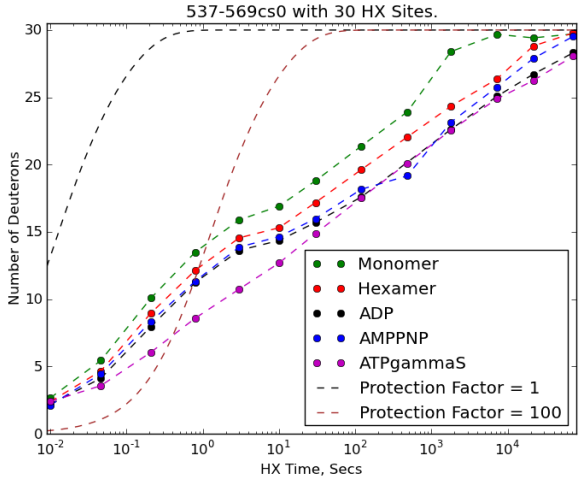

536-548cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

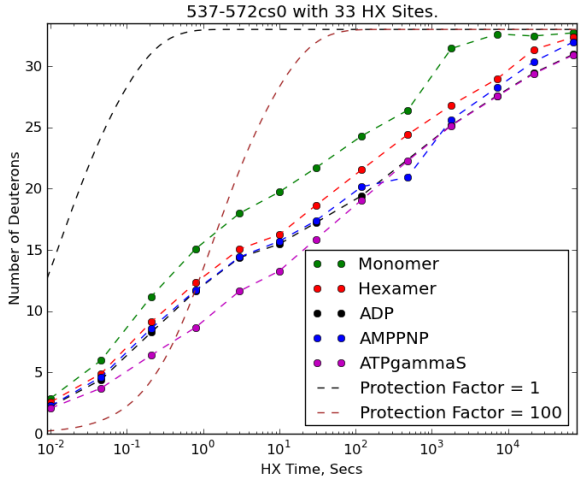

536-553cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

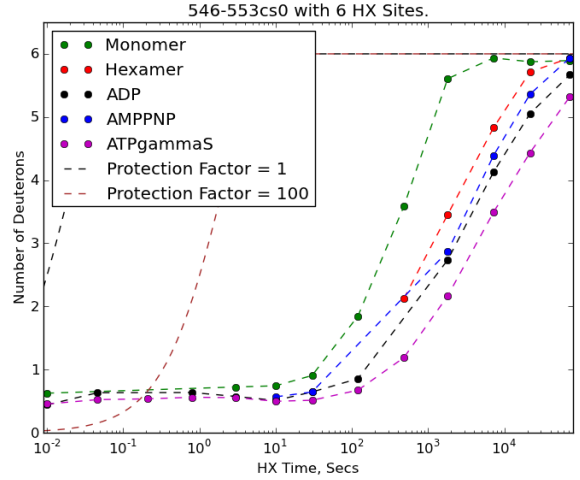

536-569cs0 with 31 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

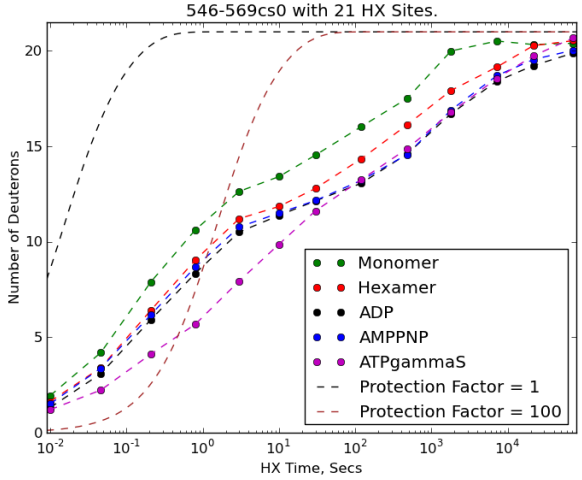

536-572cs0 with 34 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

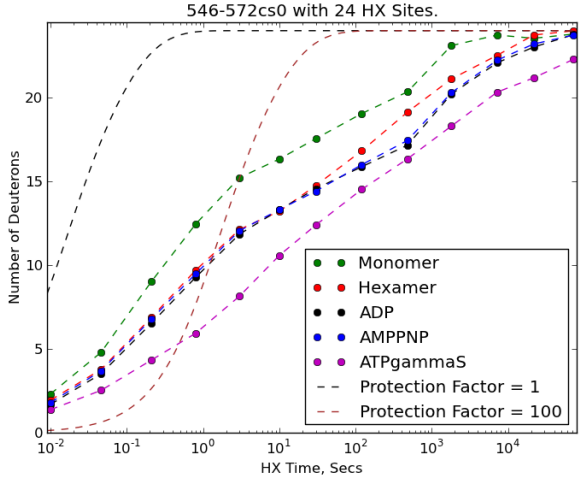

537-553cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

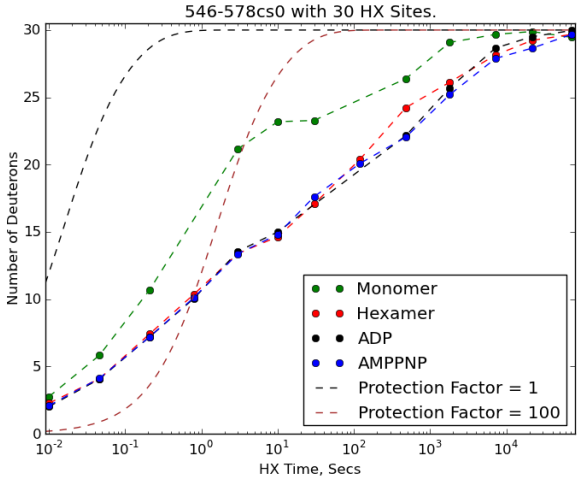

537-569cs0 with 30 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

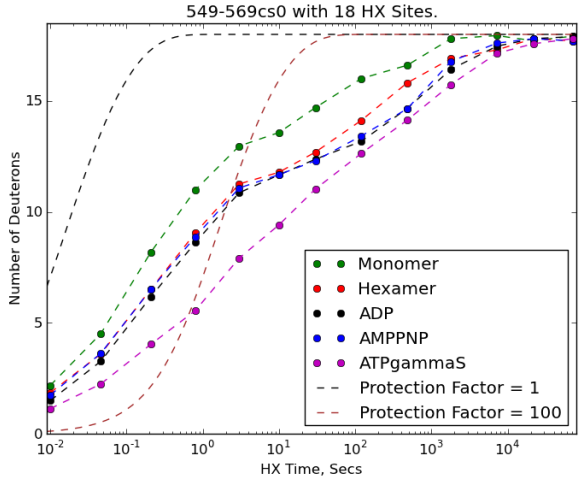

537-572cs0 with 33 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

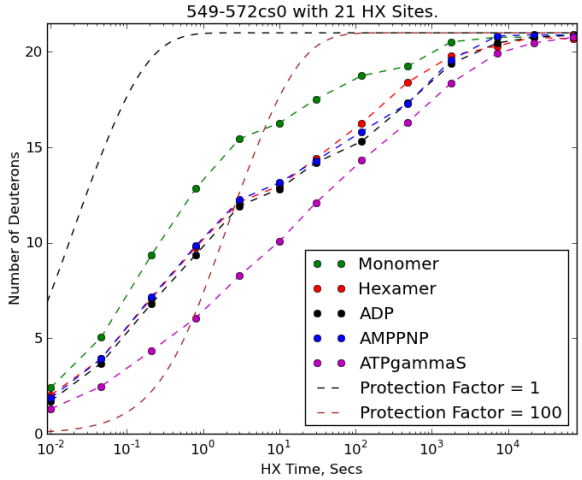

546-553cs0 with 6 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

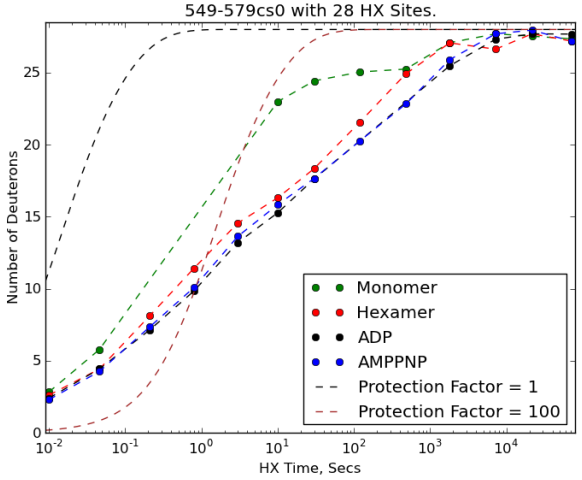

546-569cs0 with 21 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

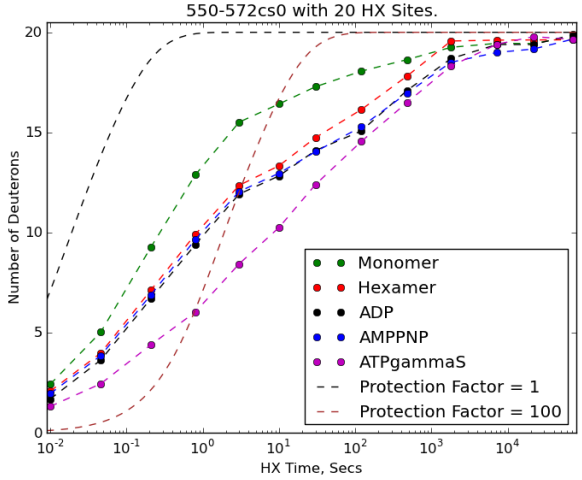

546-572cs0 with 24 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

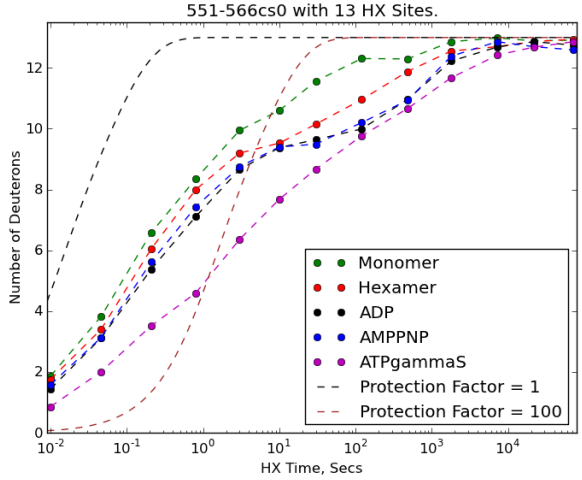

546-578cs0 with 30 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

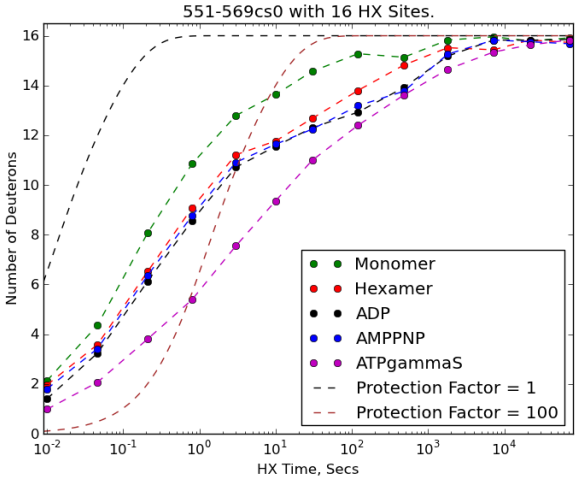

549-569cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

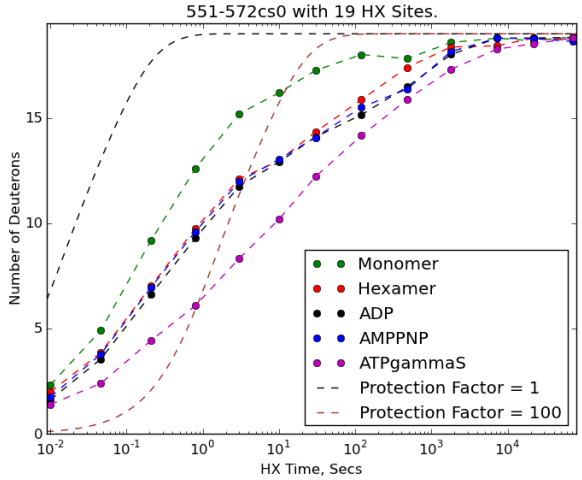

549-572cs0 with 21 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

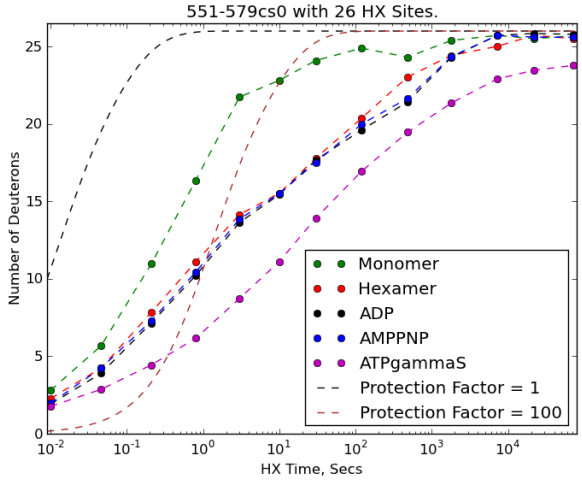

549-579cs0 with 28 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

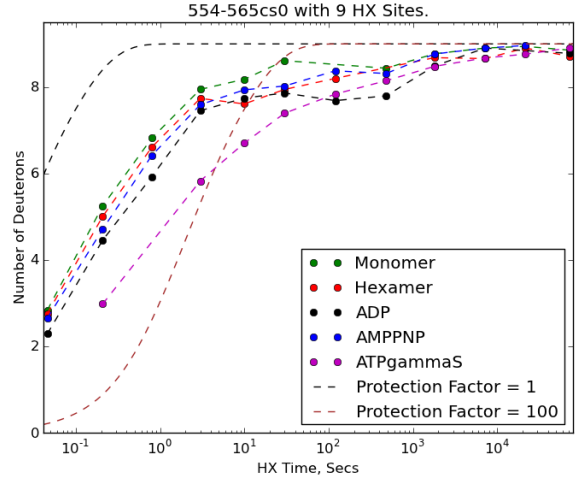

550-572cs0 with 20 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

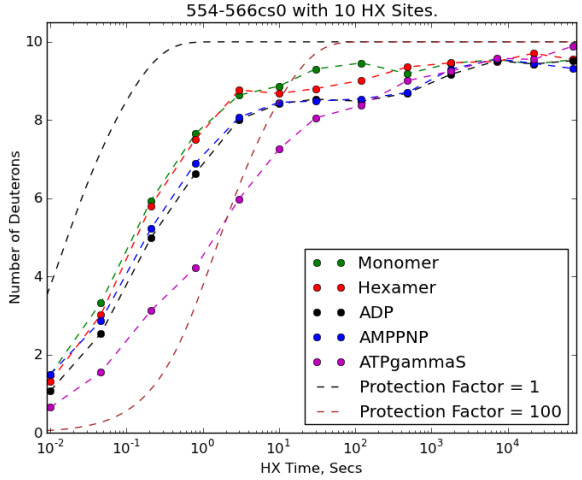

551-566cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

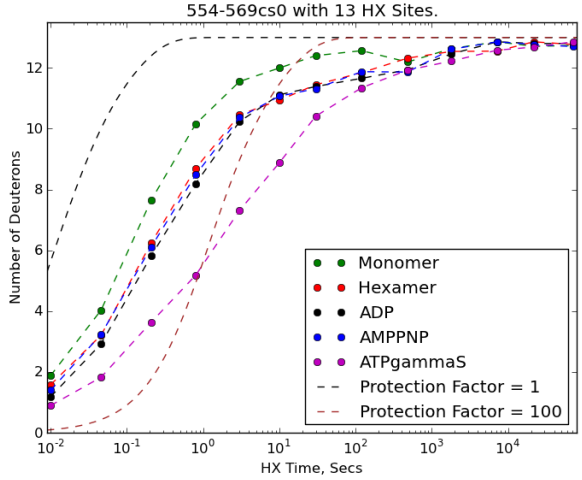

551-569cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

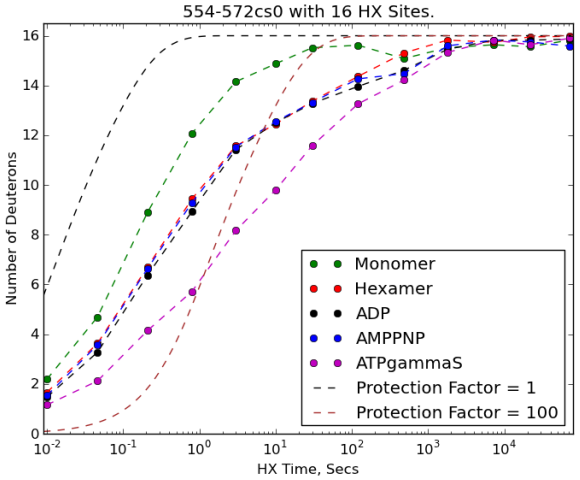

551-572cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

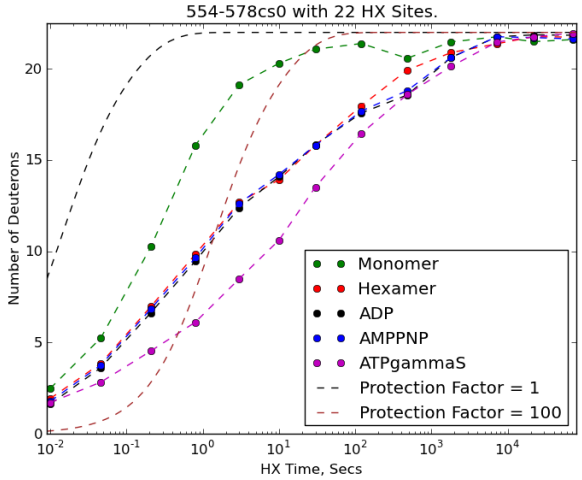

551-579cs0 with 26 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

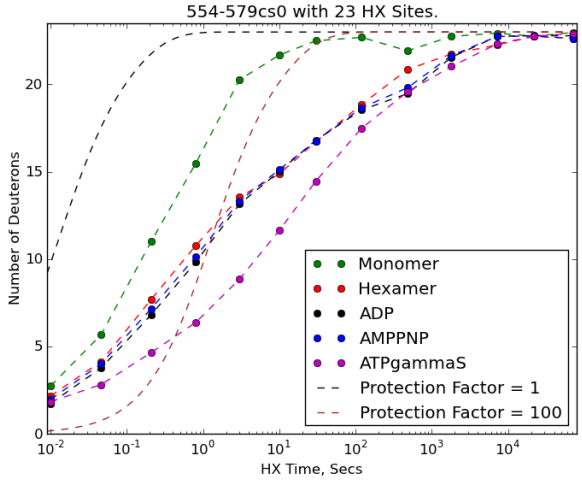

554-565cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

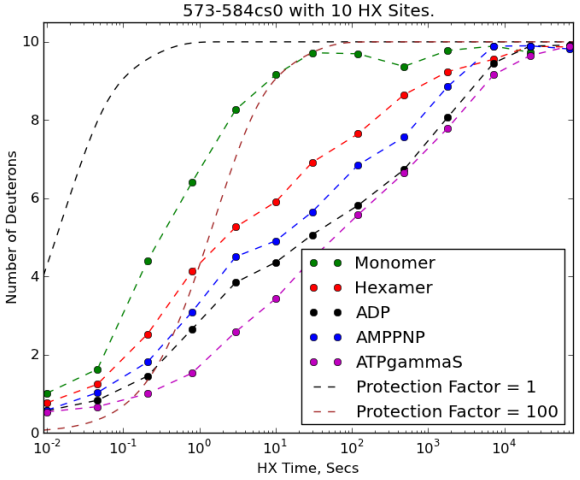

554-566cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

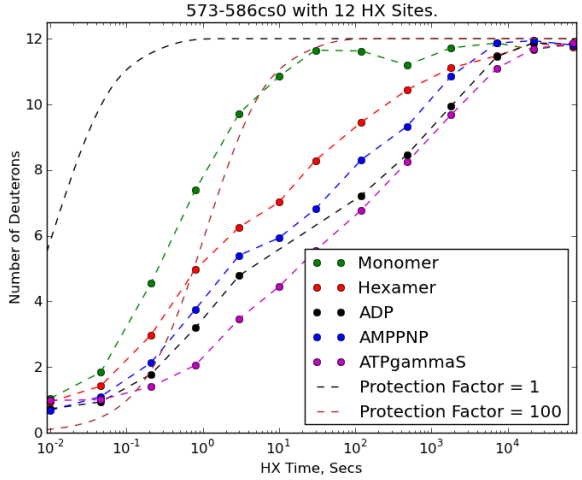

554-569cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

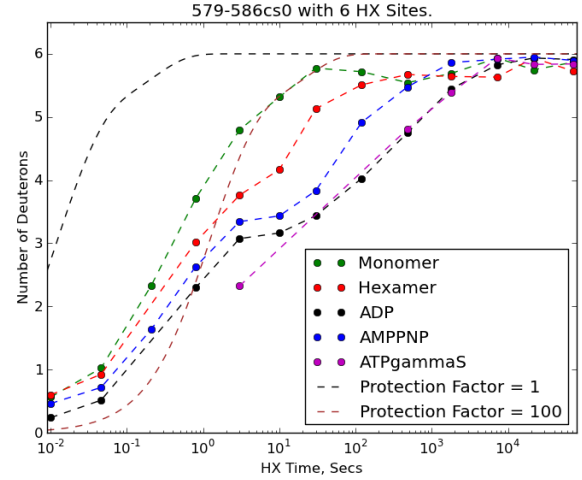

554-572cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

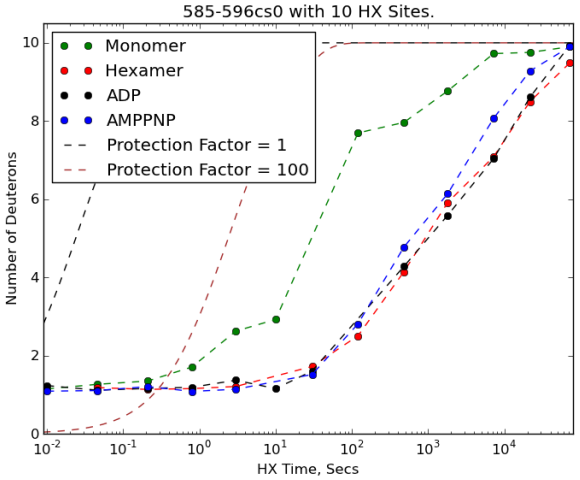

554-578cs0 with 22 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

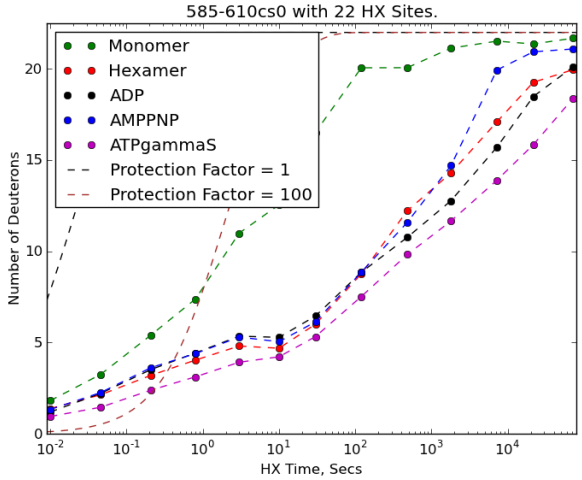

554-579cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

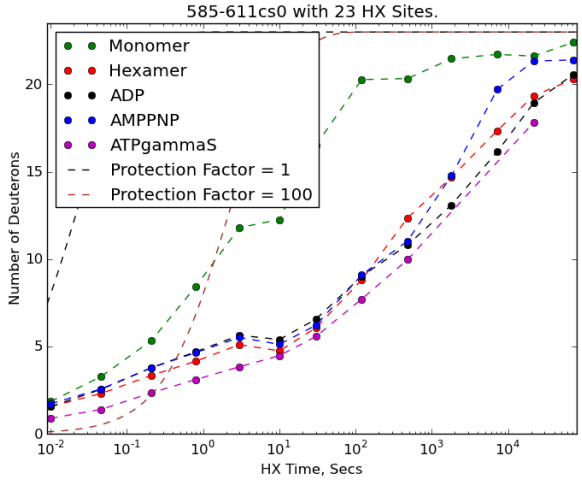

573-584cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

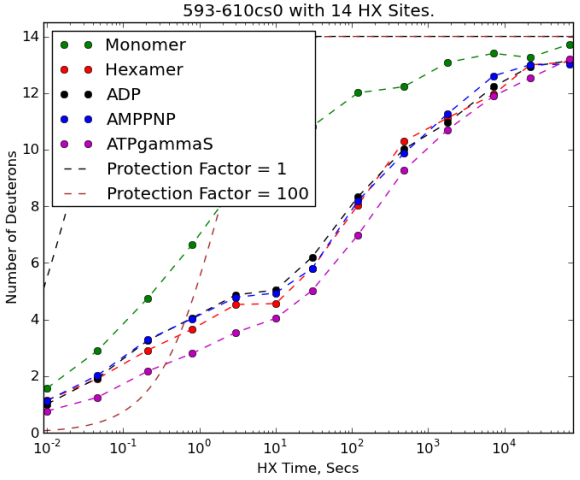

573-586cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

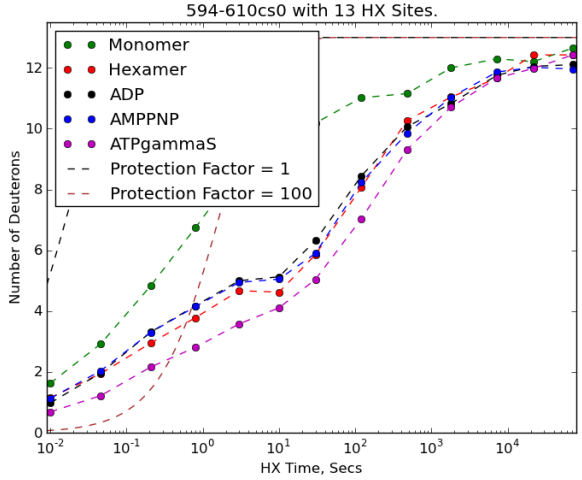

579-586cs0 with 6 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

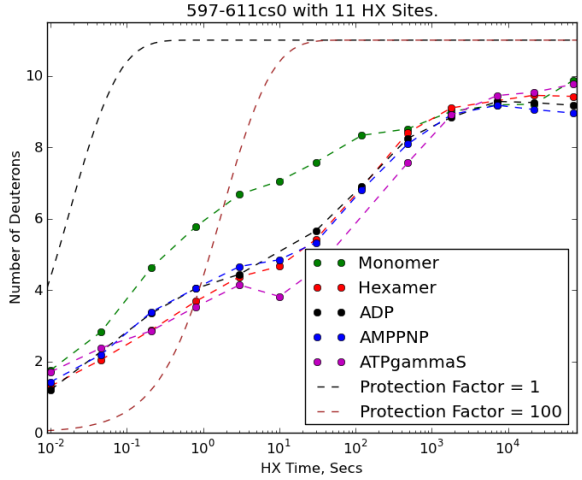

585-596cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

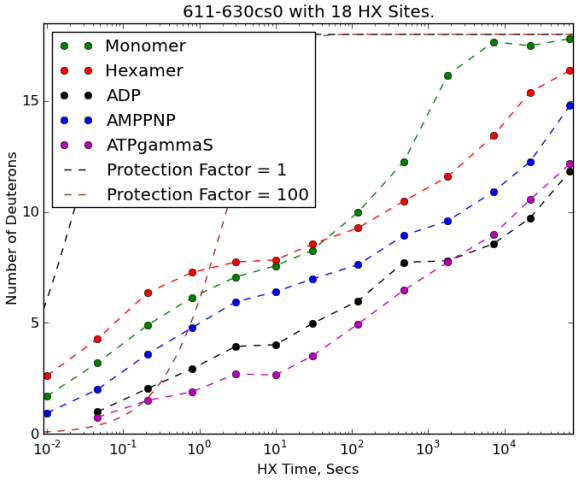

585-610cs0 with 22 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

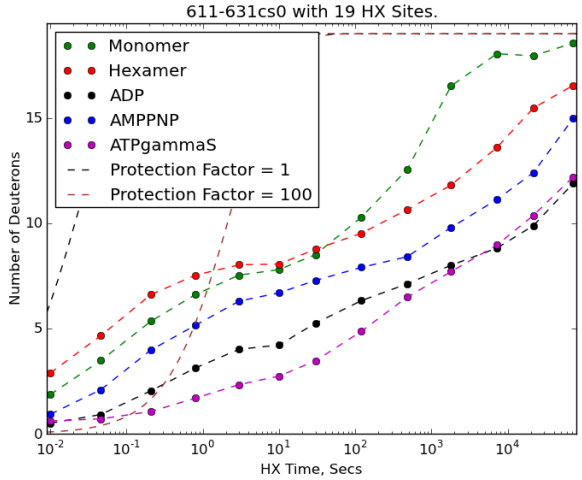

585-611cs0 with 23 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

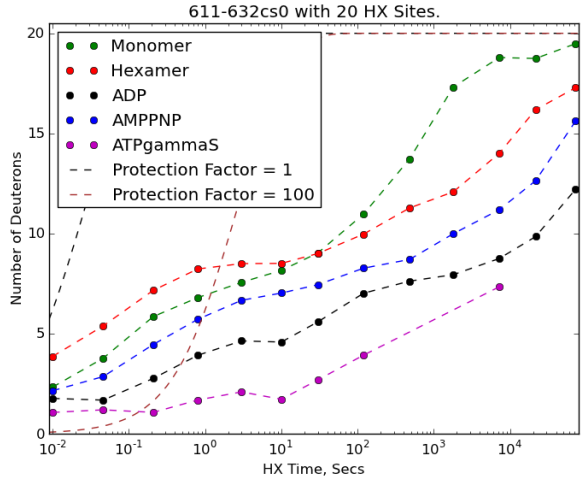

593-610cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

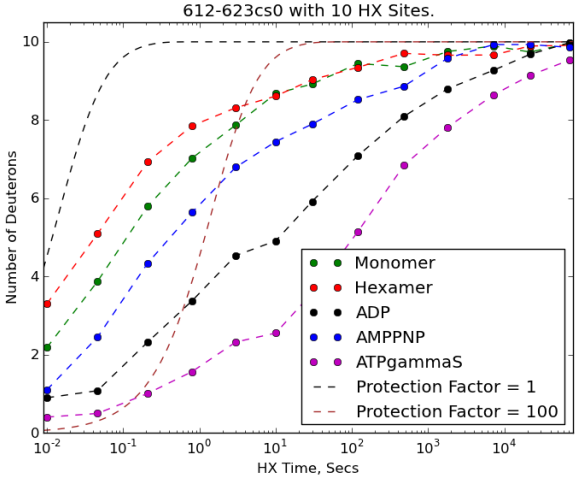

594-610cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

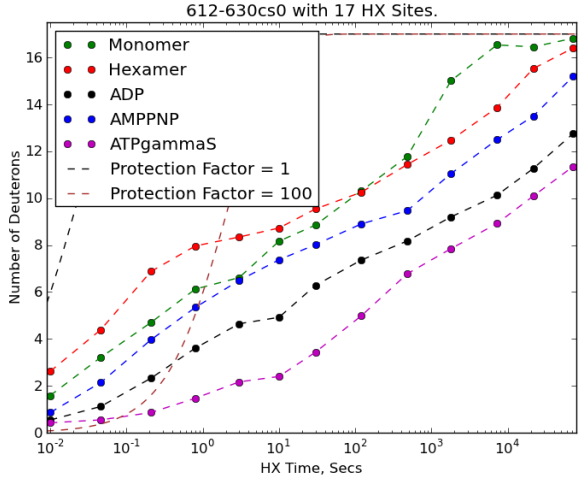

597-611cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

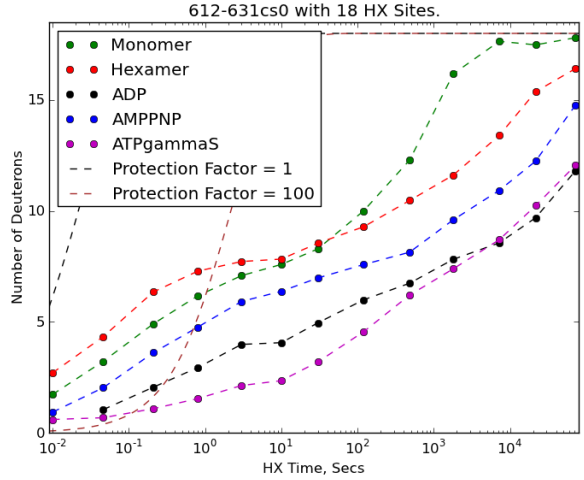

611-630cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

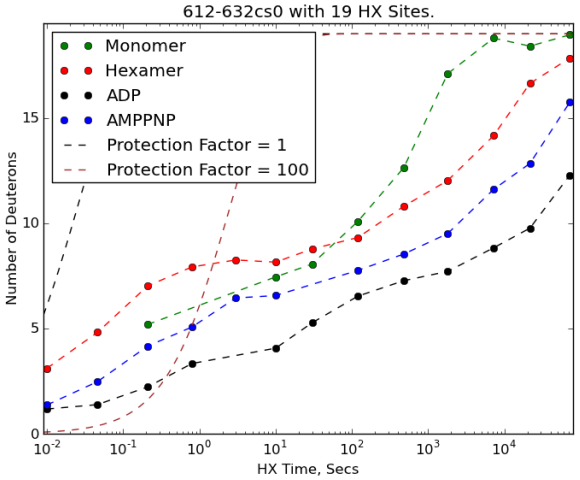

611-631cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

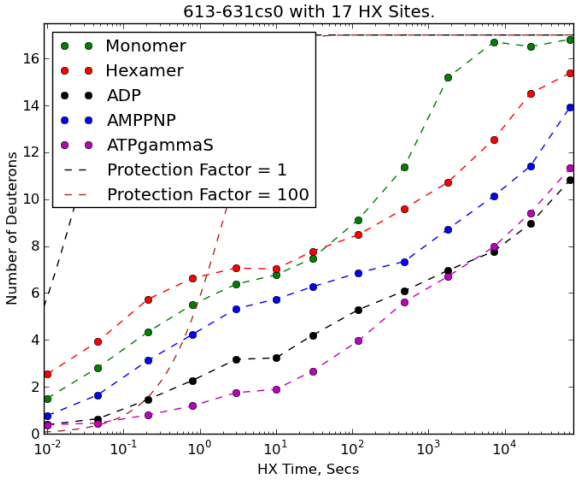

611-632cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

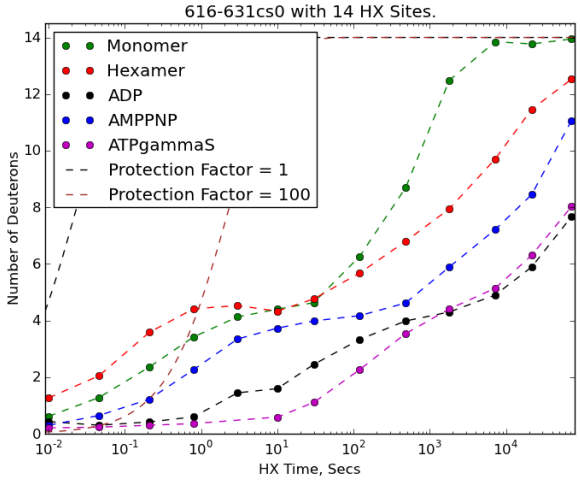

612-623cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

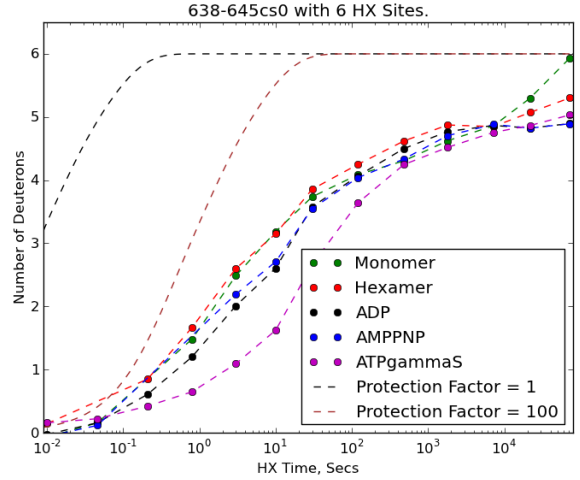

612-630cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

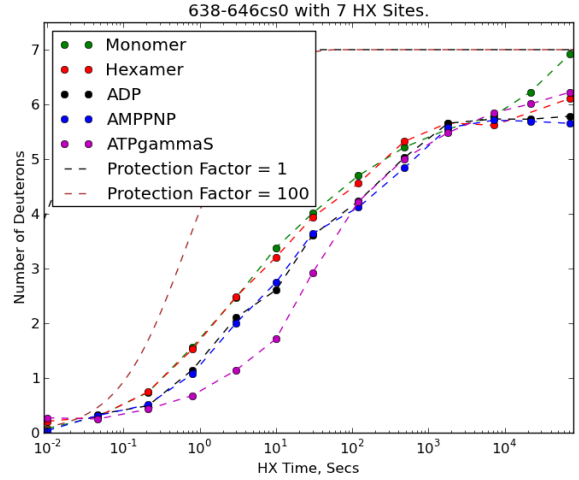

612-631cs0 with 18 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

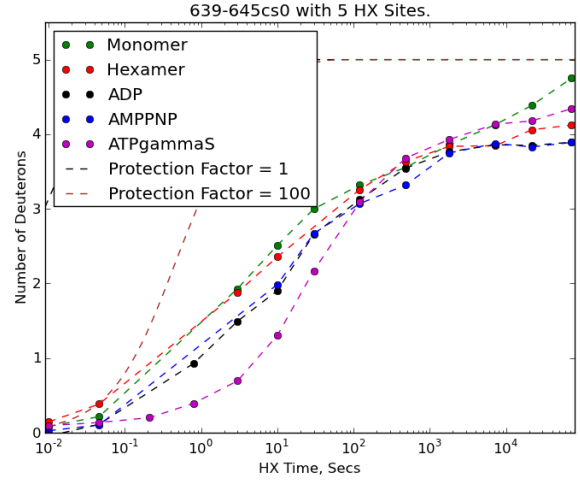

612-632cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

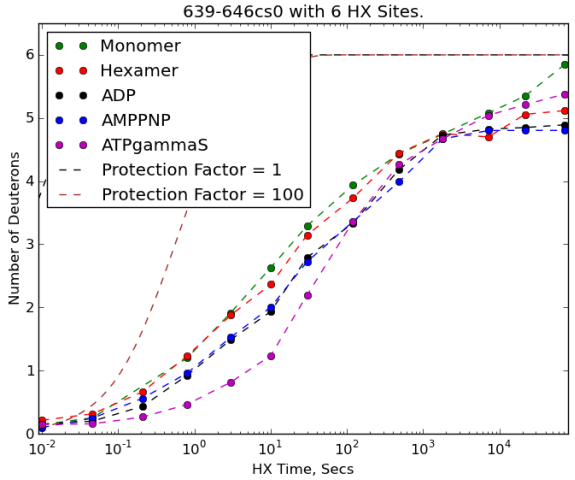

613-631cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

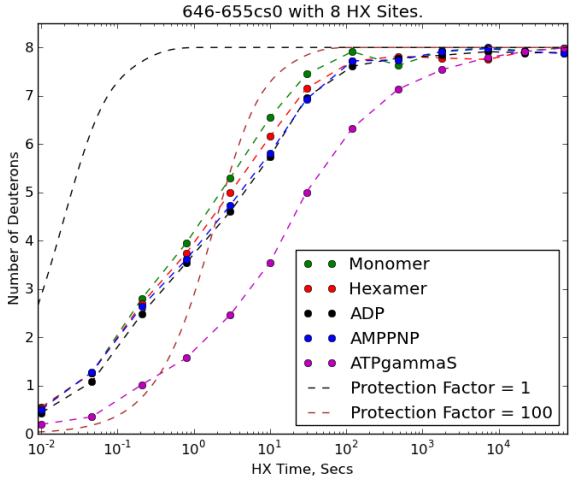

616-631cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

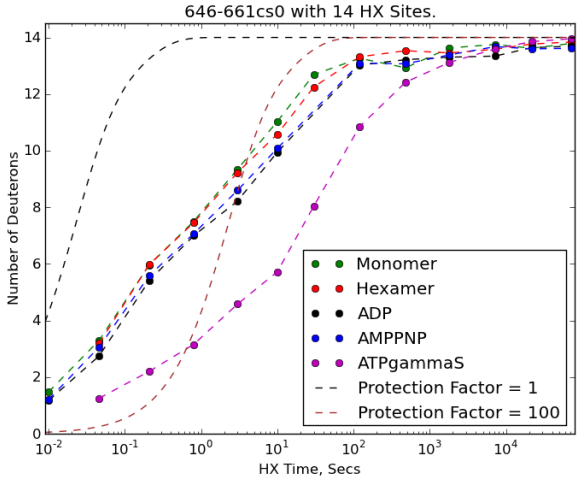

638-645cs0 with 6 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

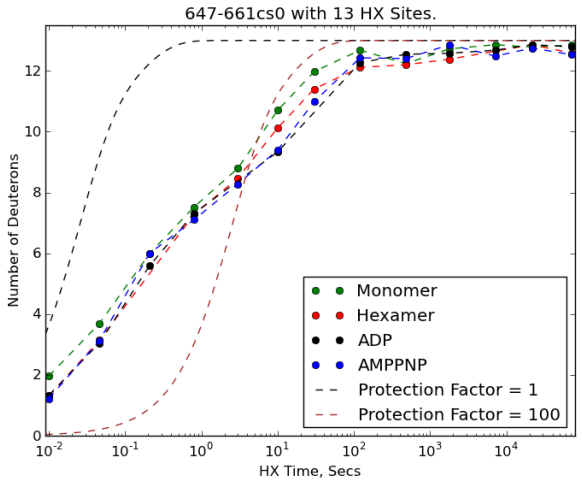

638-646cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

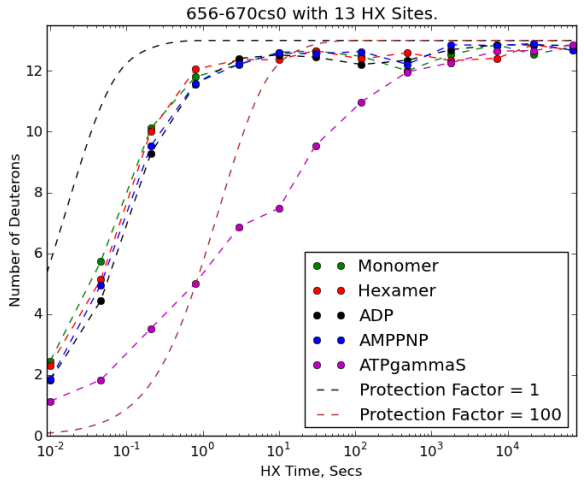

639-645cs0 with 5 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

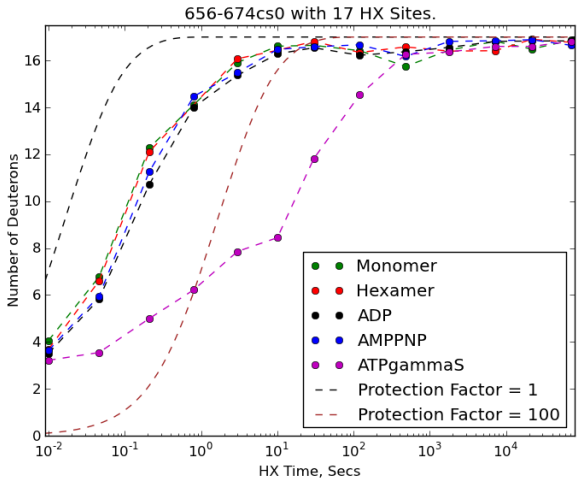

639-646cs0 with 6 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

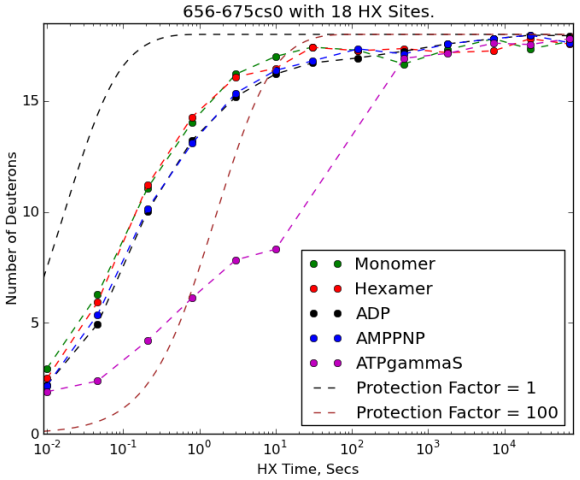

646-655cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

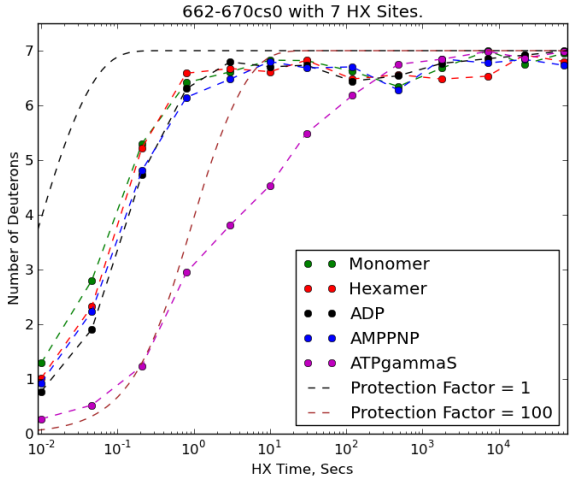

646-661cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

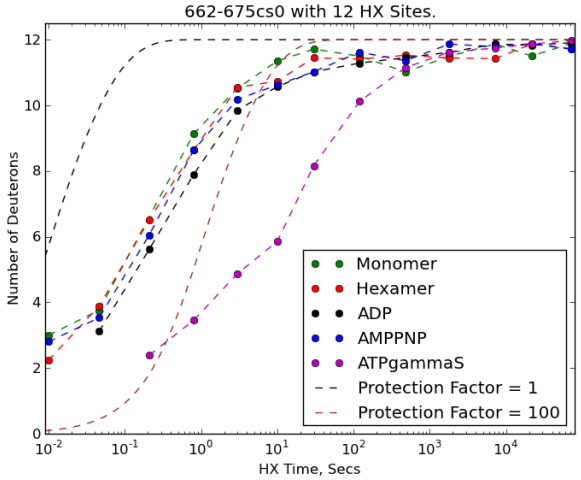

647-661cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

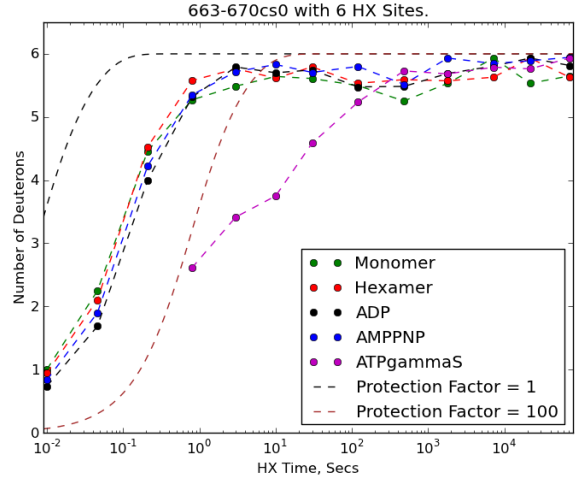

656-670cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

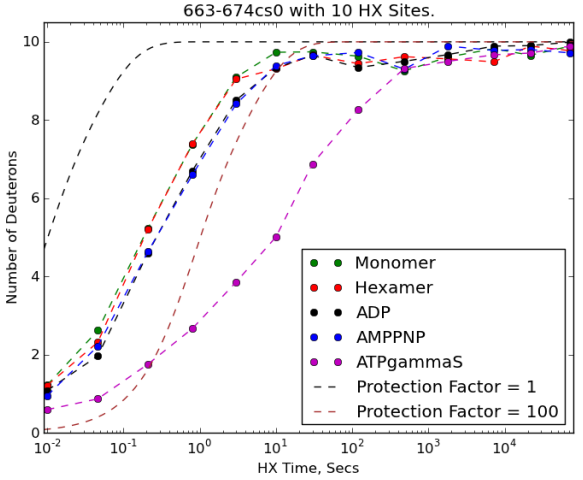

656-674cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

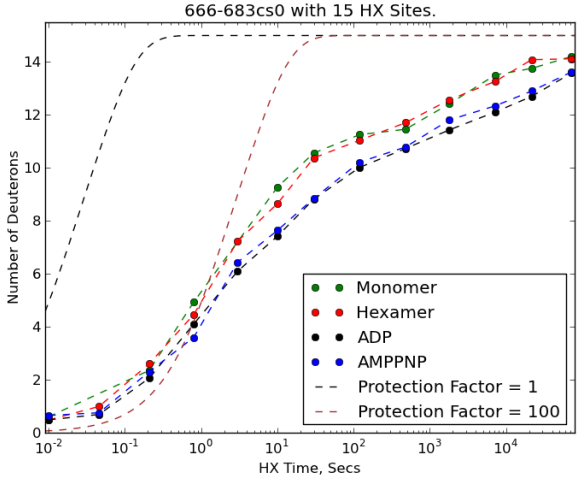

656-675cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

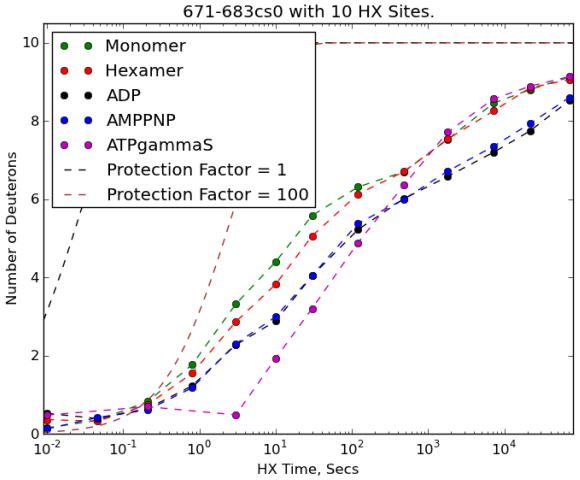

662-670cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

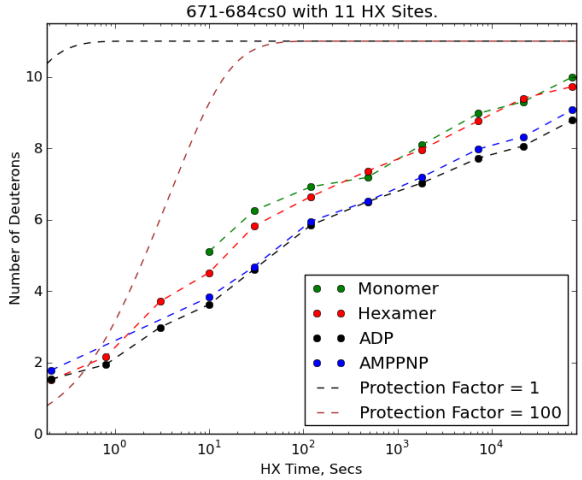

662-675cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

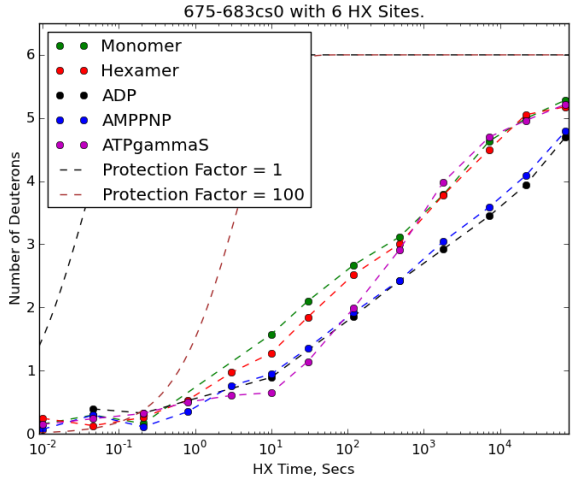

663-670cs0 with 6 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

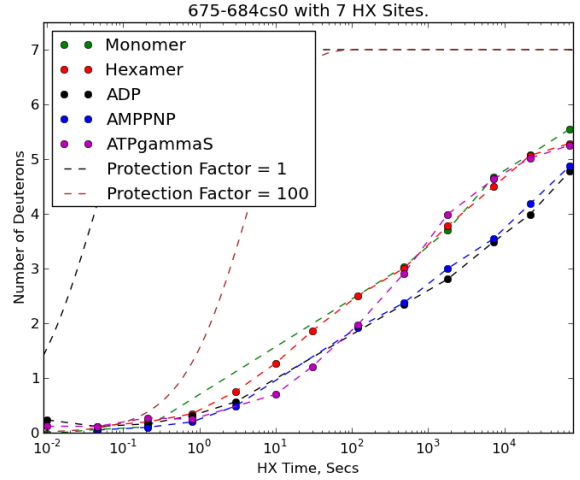

663-674cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

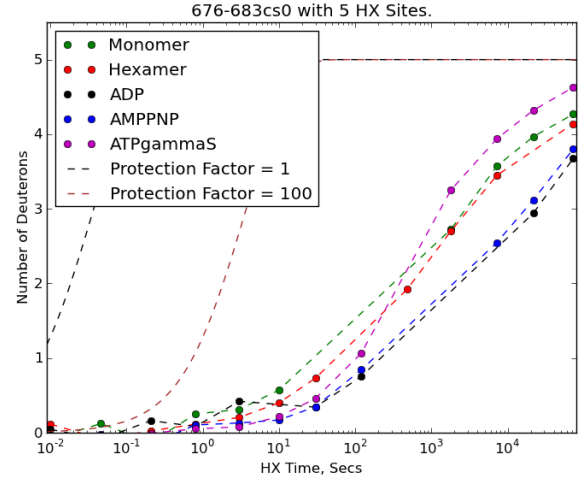

666-683cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

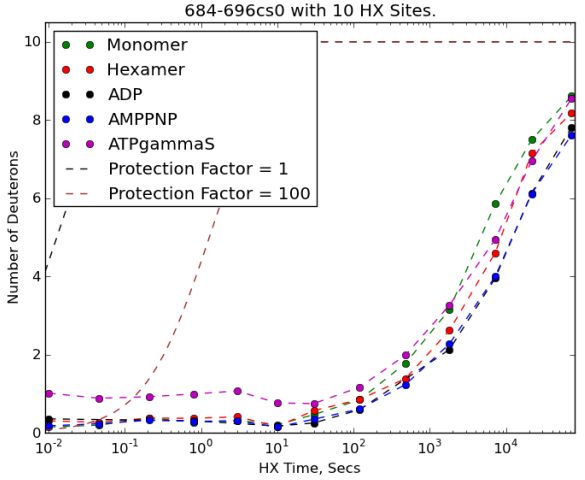

671-683cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

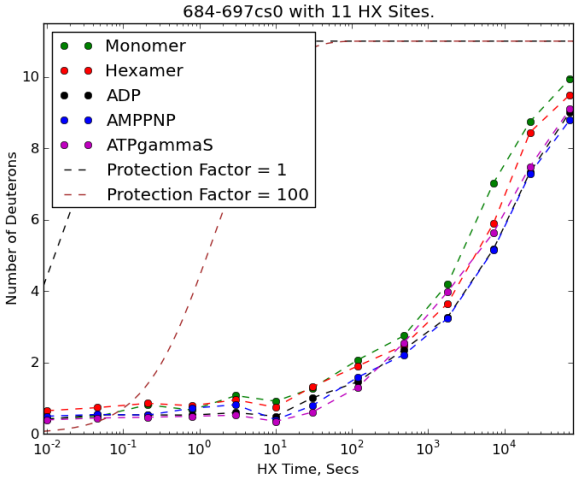

671-684cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

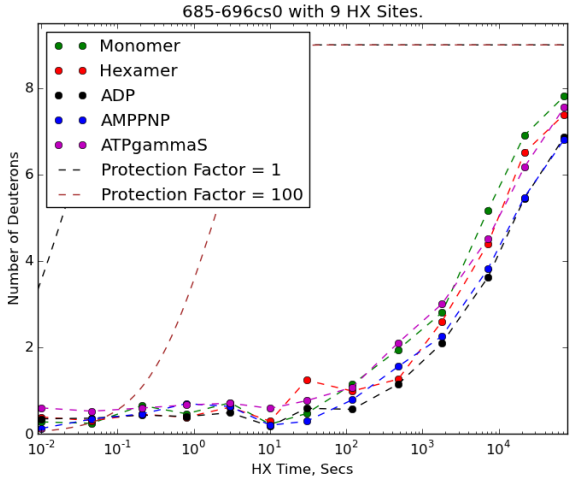

675-683cs0 with 6 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

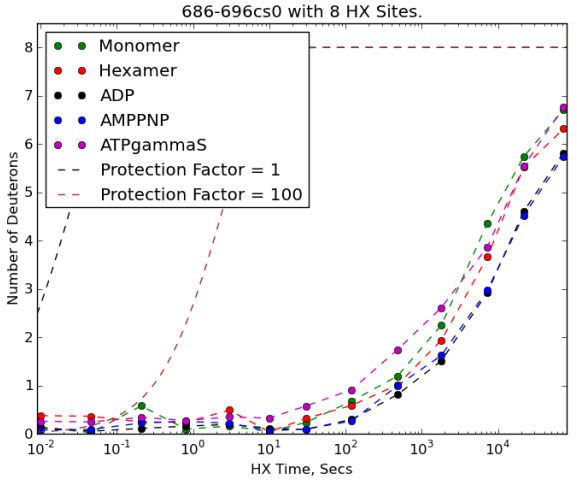

675-684cs0 with 7 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

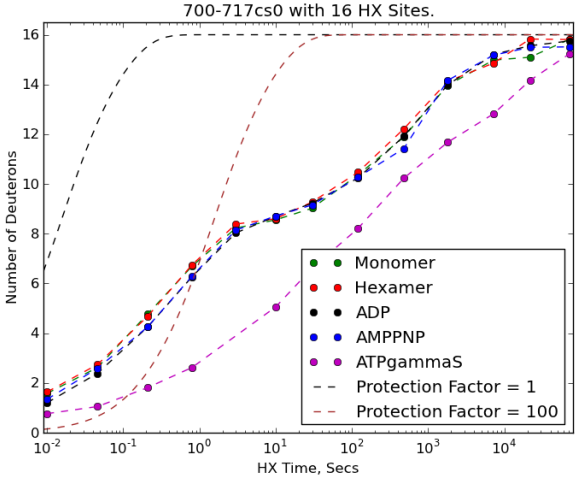

676-683cs0 with 5 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

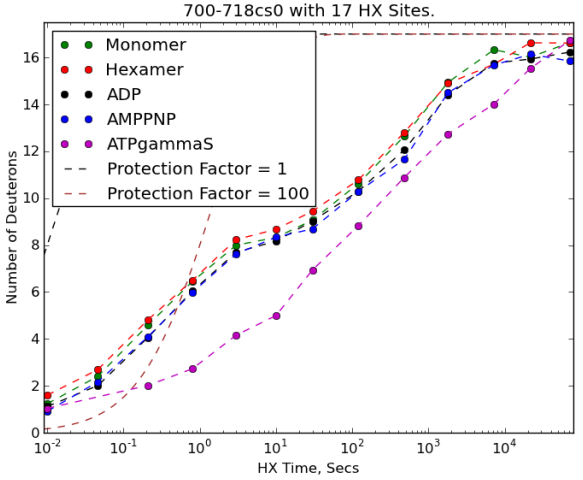

684-696cs0 with 10 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

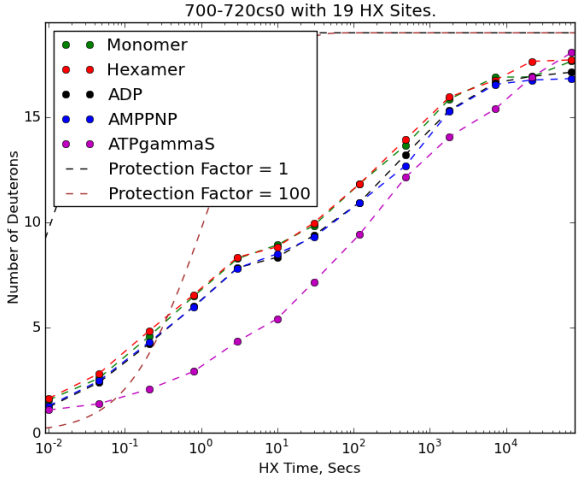

684-697cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

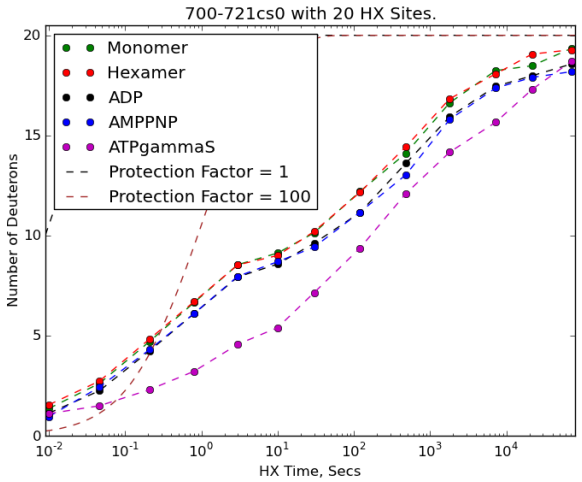

685-696cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

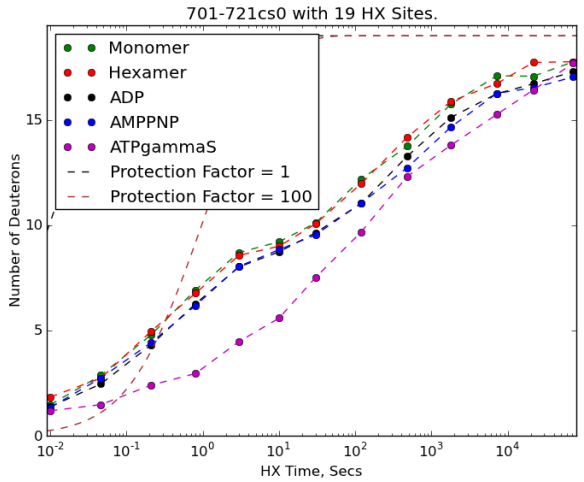

686-696cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

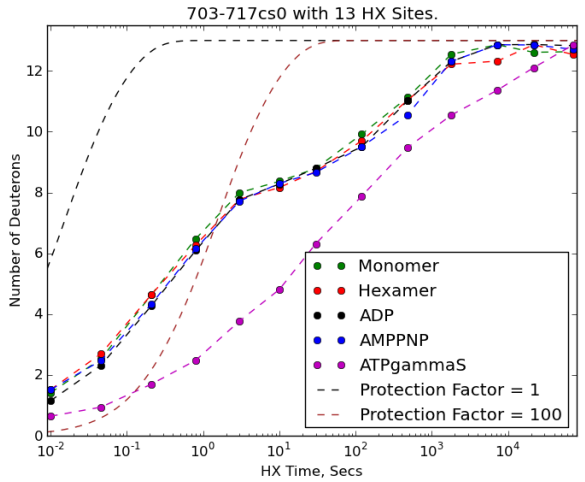

700-717cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

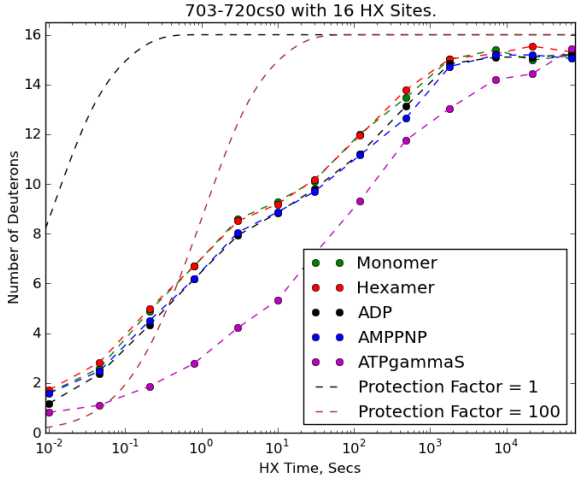

700-718cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

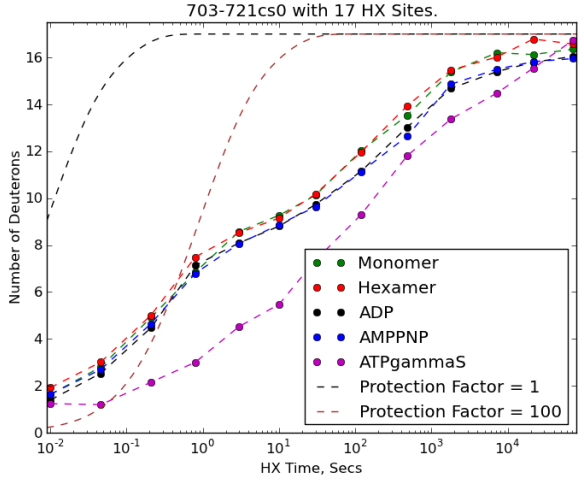

700-720cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

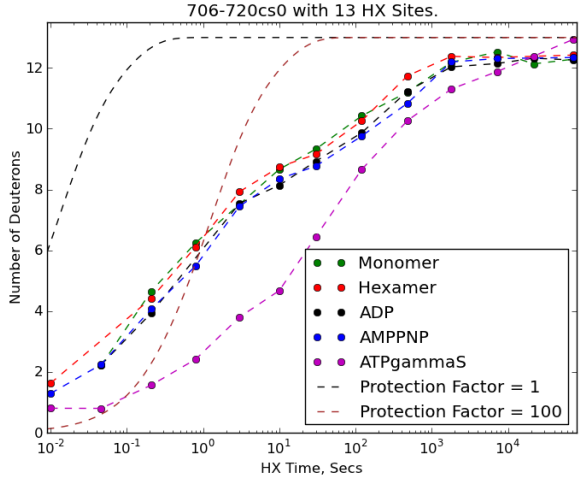

700-721cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

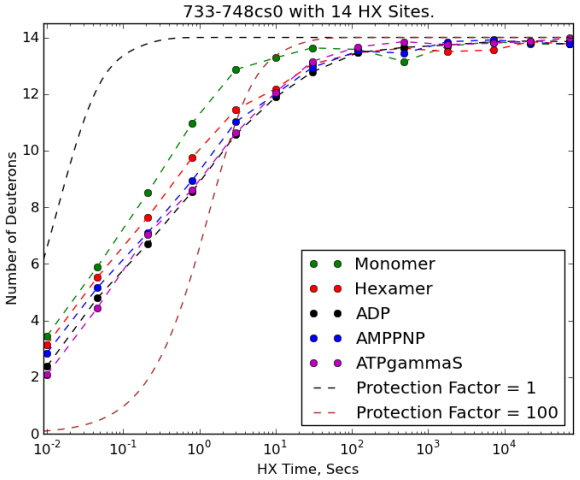

701-721cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

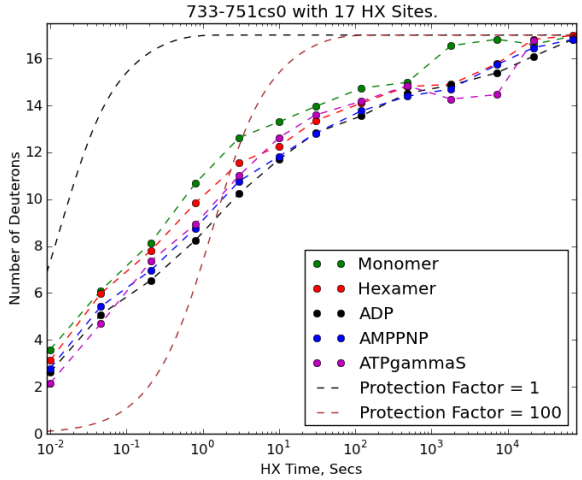

703-717cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

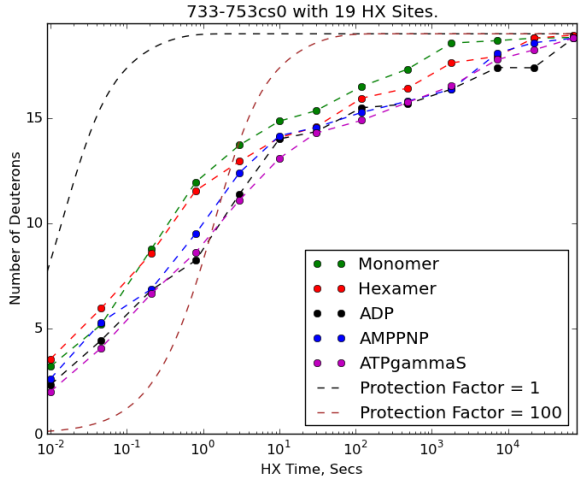

703-720cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

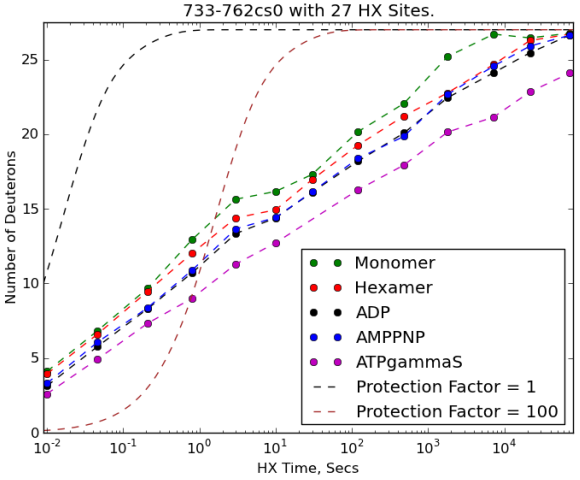

703-721cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

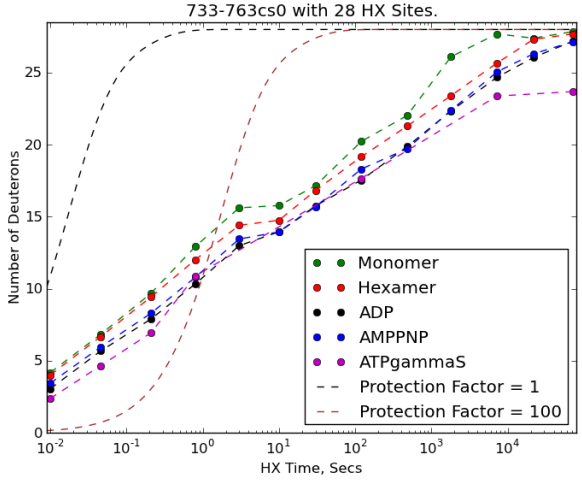

706-720cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

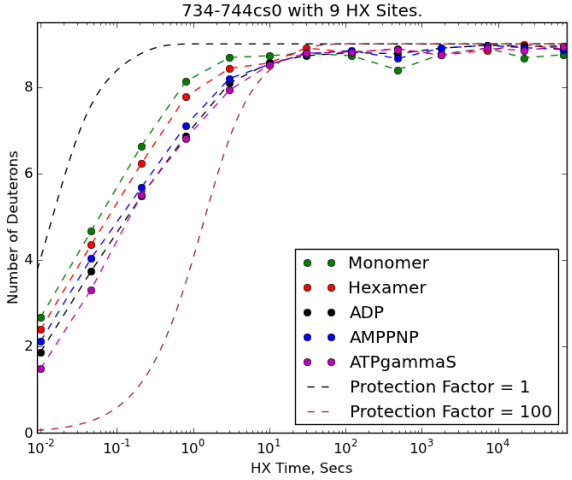

733-748cs0 with 14 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

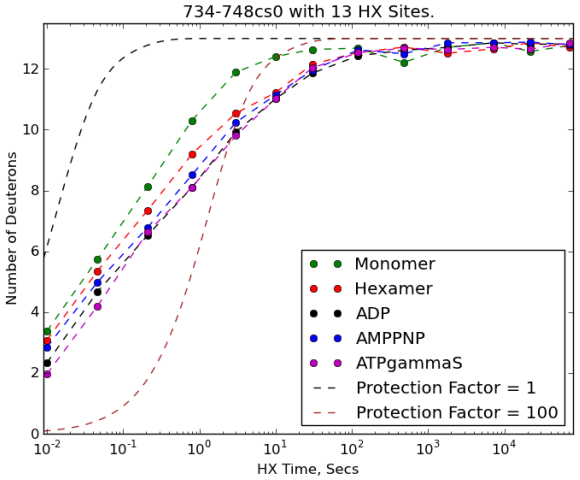

733-751cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

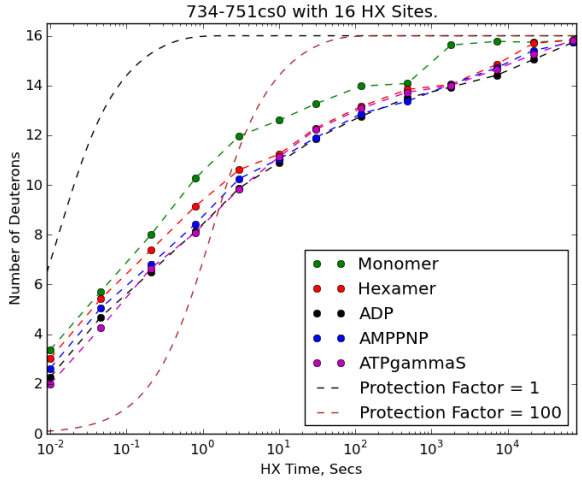

733-753cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

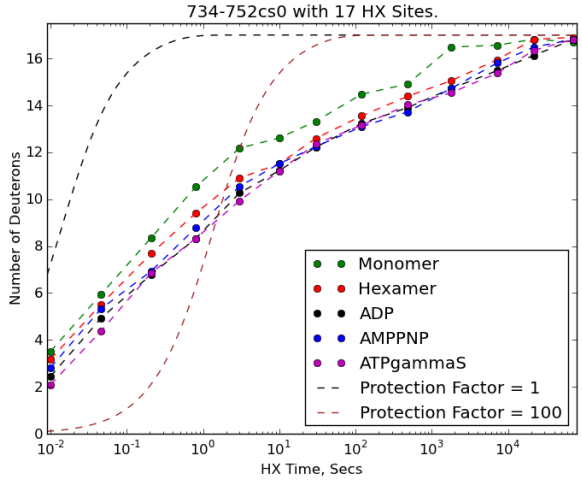

733-762cs0 with 27 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

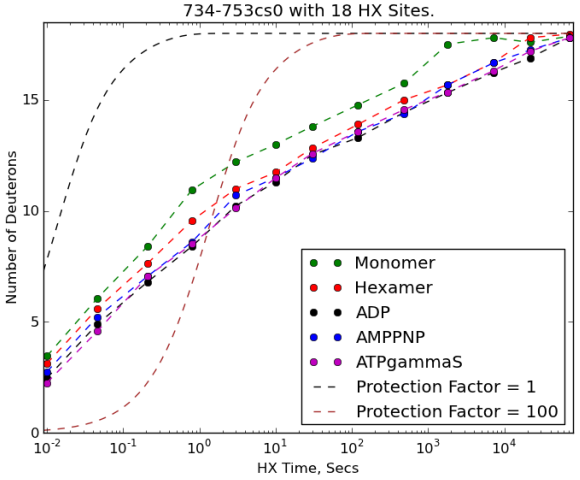

733-763cs0 with 28 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

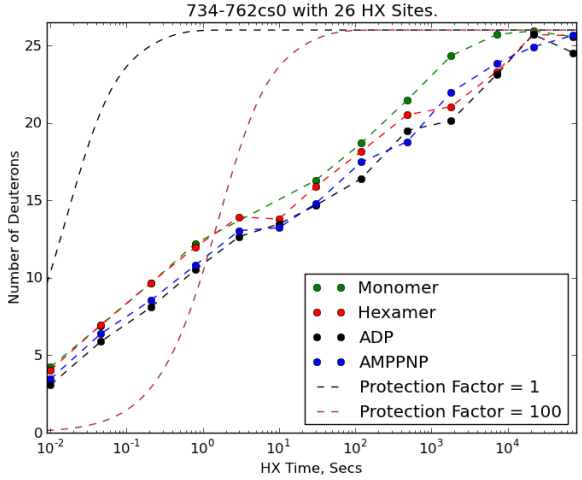

734-744cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

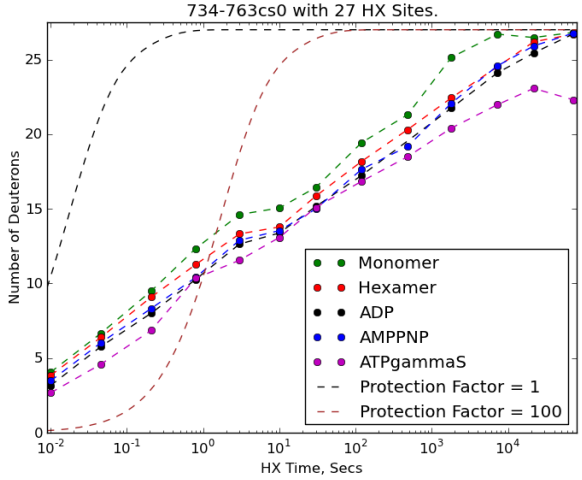

734-748cs0 with 13 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

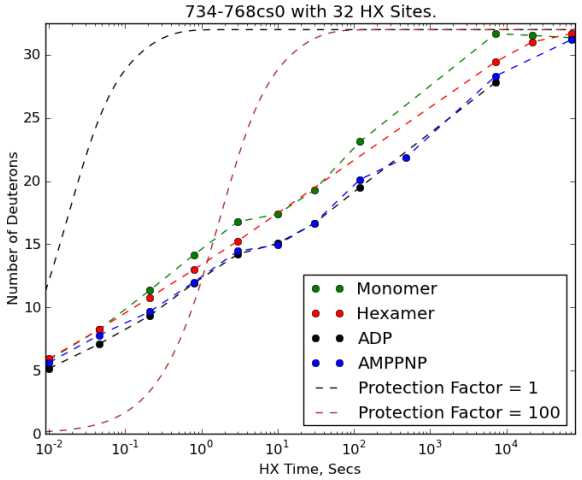

734-751cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

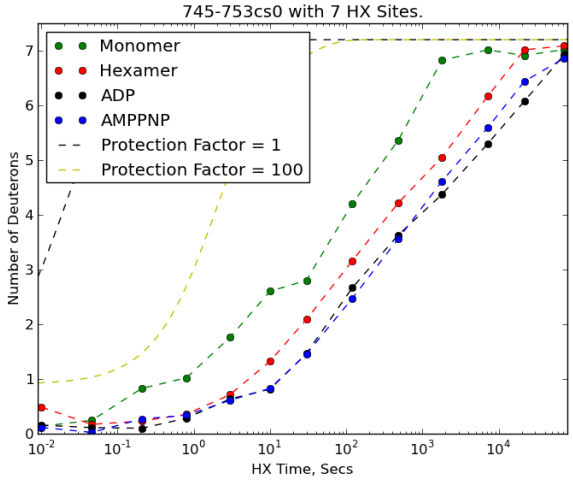

734-752cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

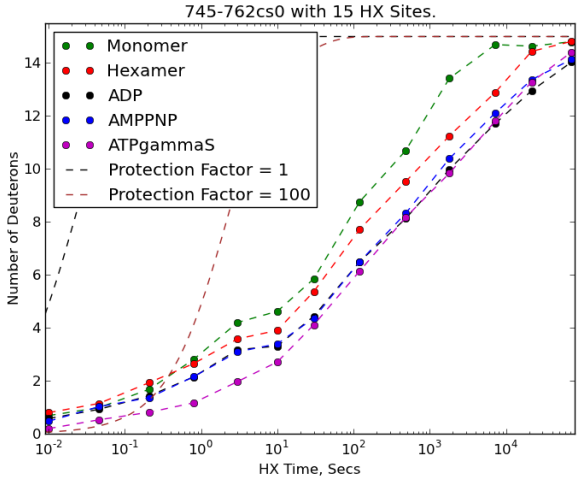

734-753cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

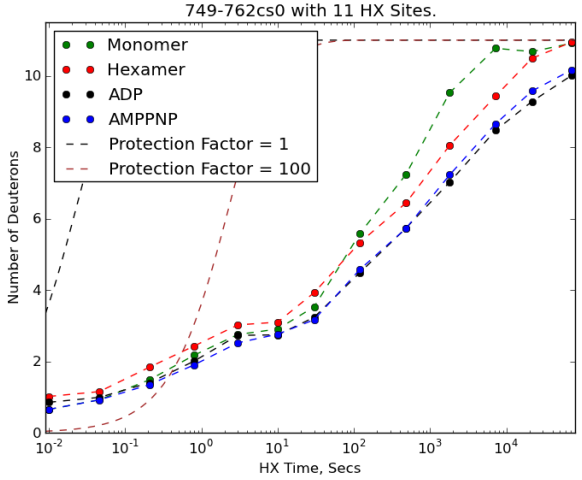

734-762cs0 with 26 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

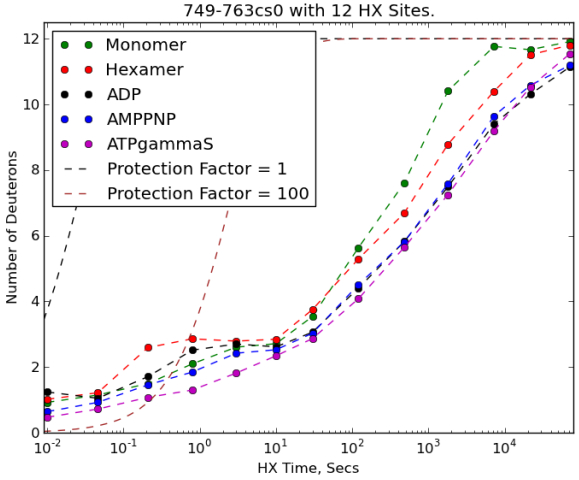

734-763cs0 with 27 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

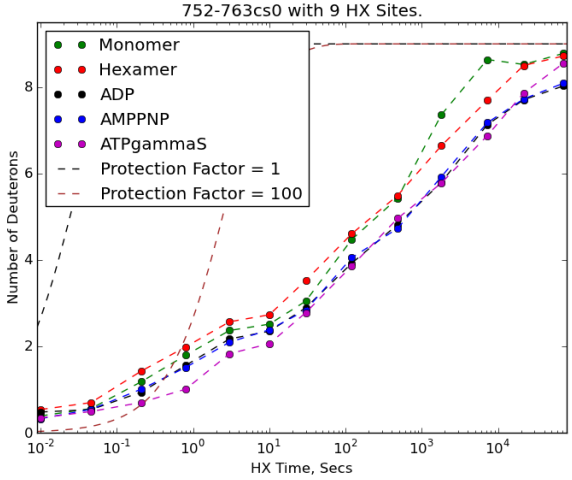

734-768cs0 with 32 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

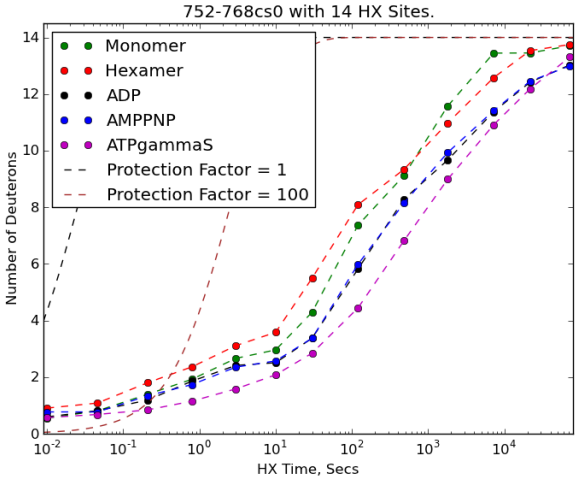

745-753cs0 with 7 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

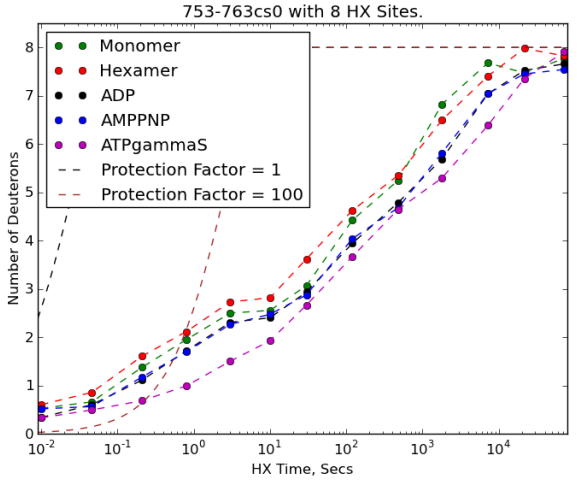

745-762cs0 with 15 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

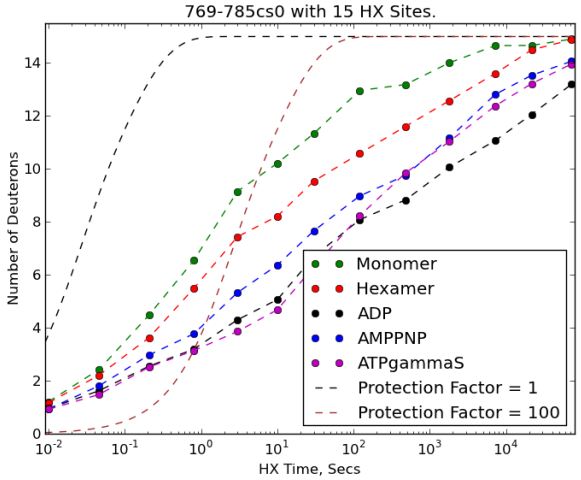

749-762cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

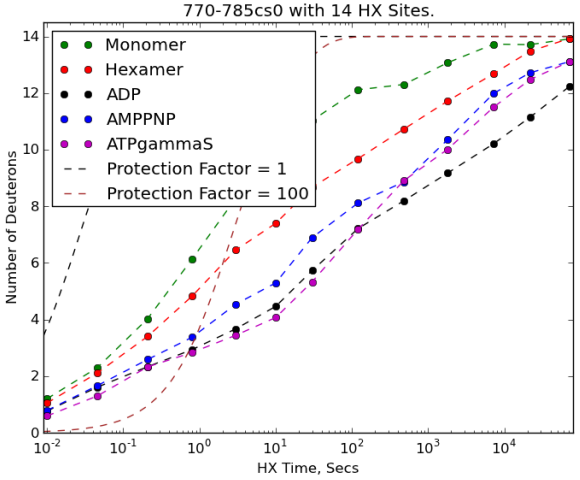

749-763cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

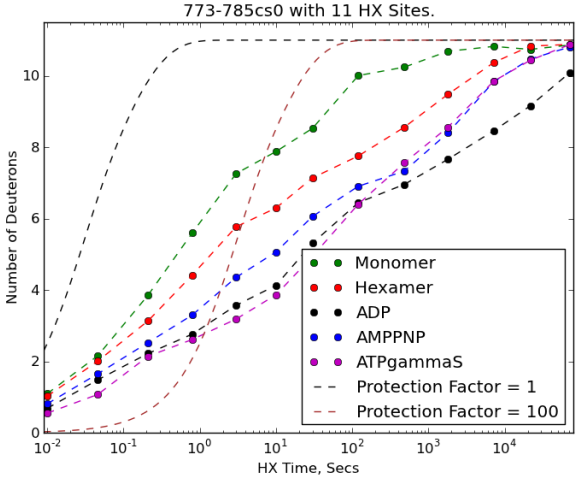

752-763cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

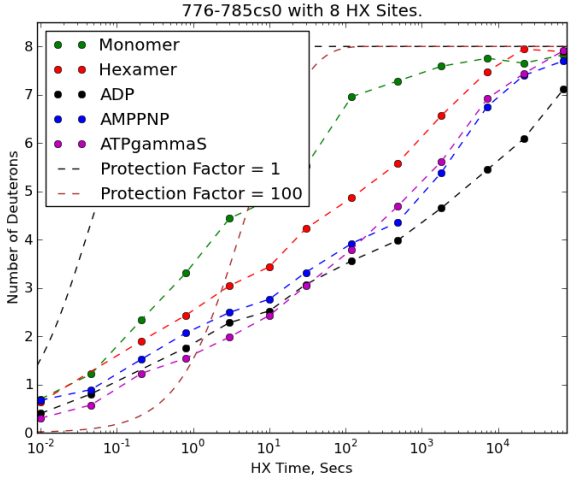

752-768cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

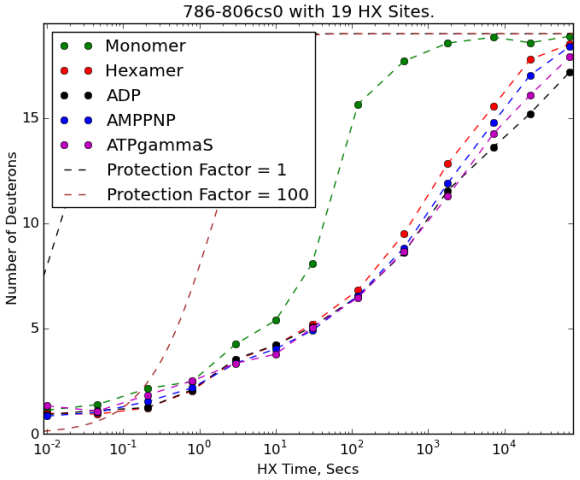

753-763cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

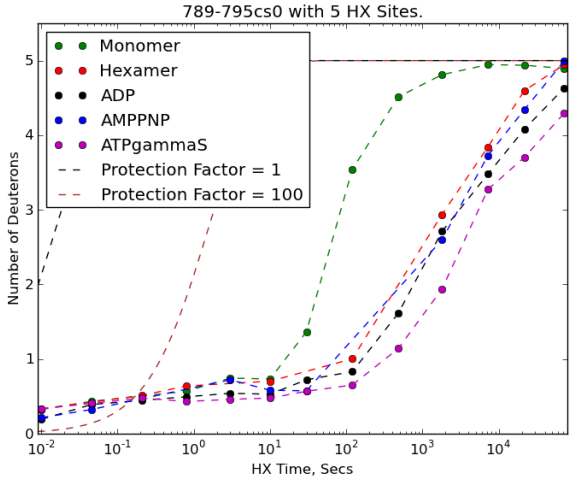

769-785cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

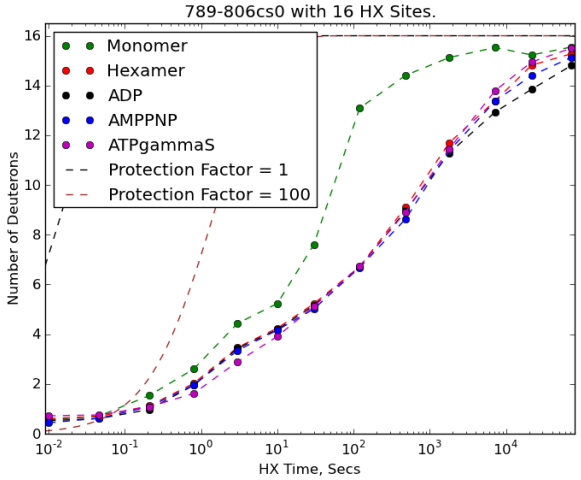

770-785cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

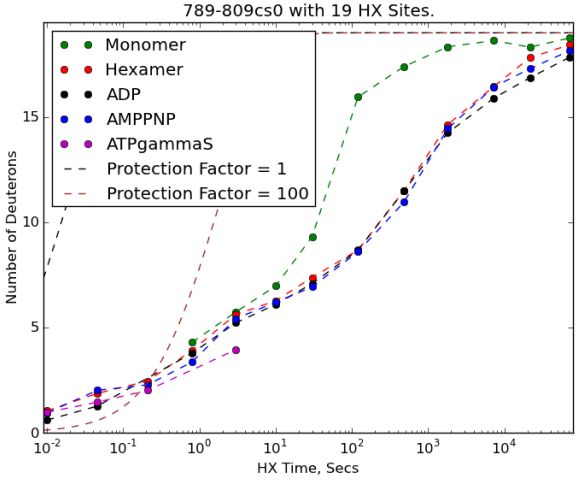

773-785cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

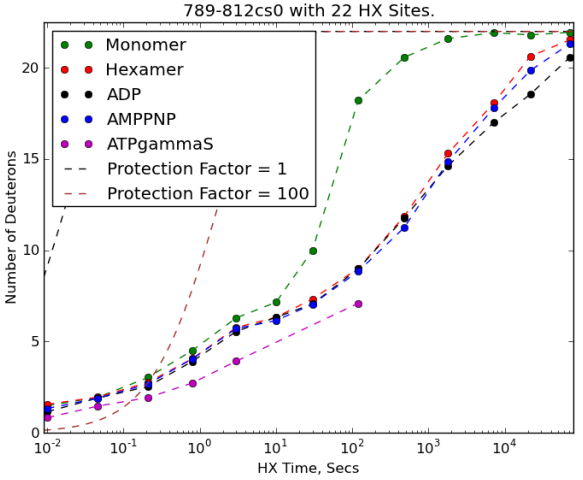

776-785cs0 with 8 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

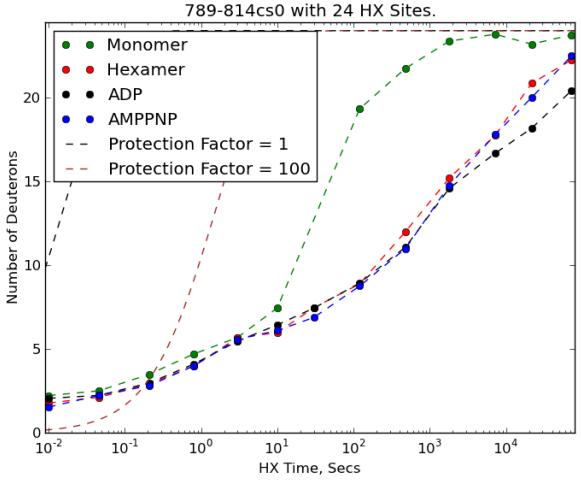

786-806cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

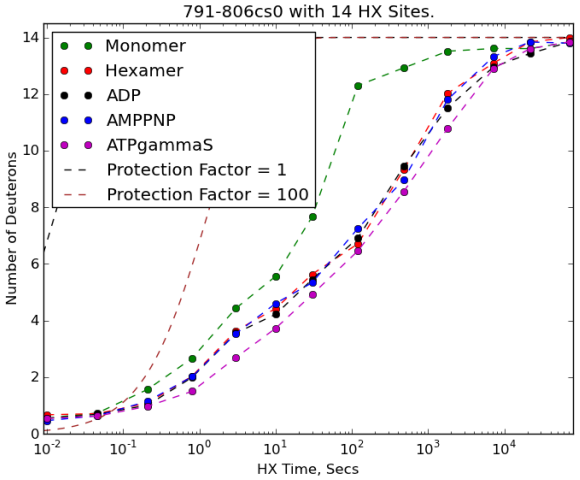

789-795cs0 with 5 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

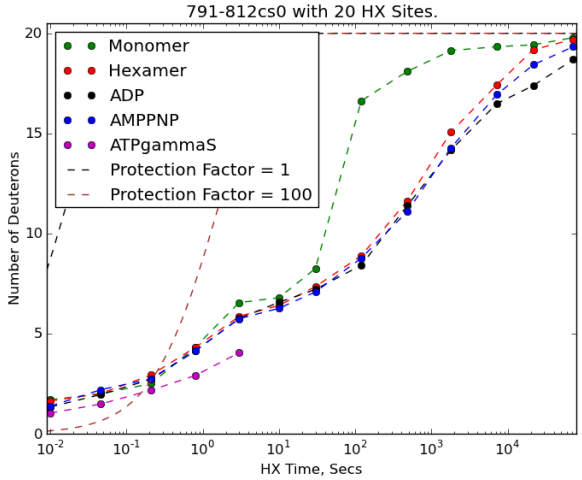

789-806cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

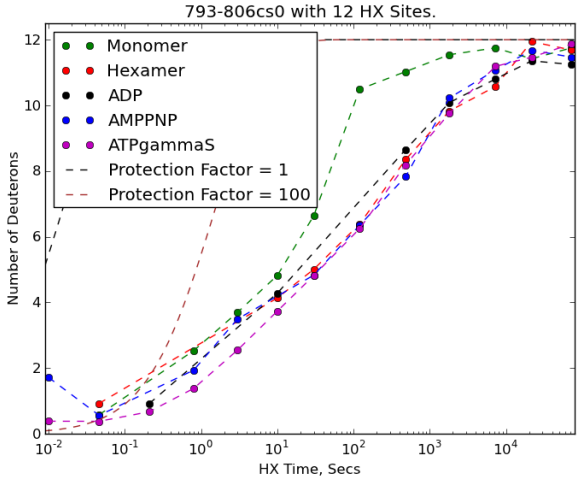

789-809cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

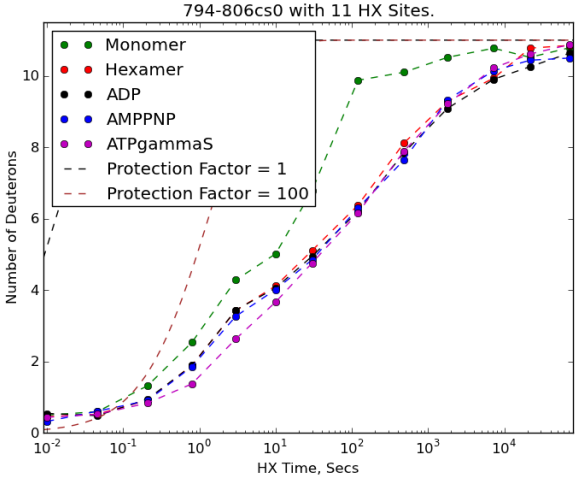

789-812cs0 with 22 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

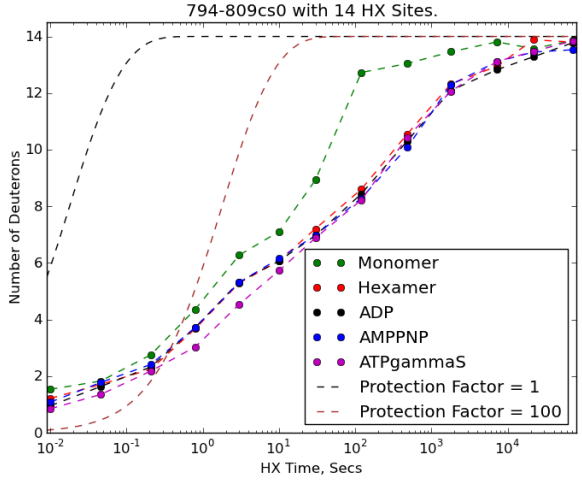

789-814cs0 with 24 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

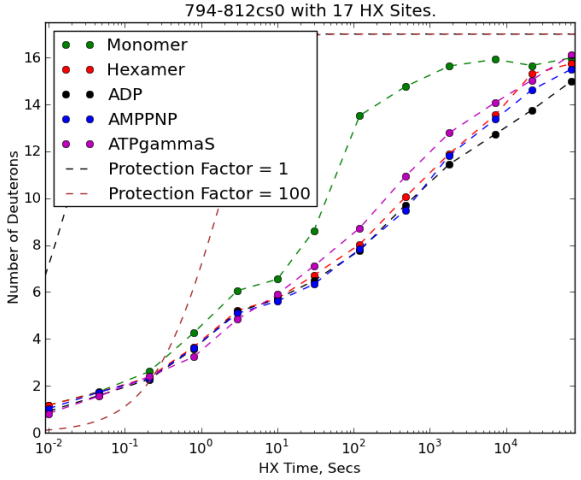

791-806cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

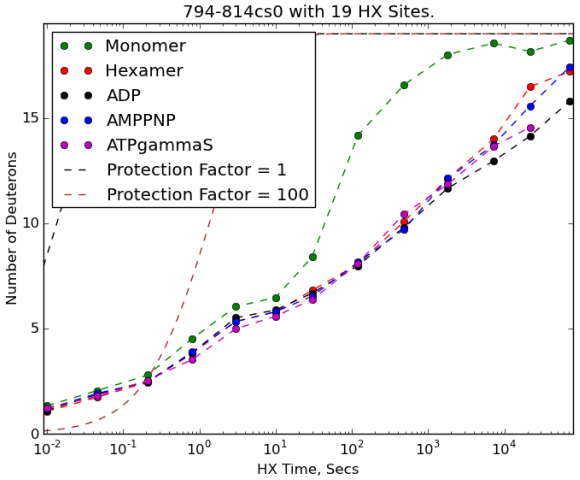

791-812cs0 with 20 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

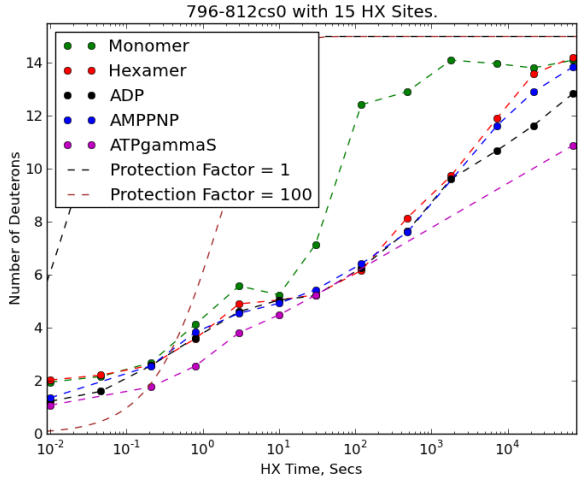

793-806cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

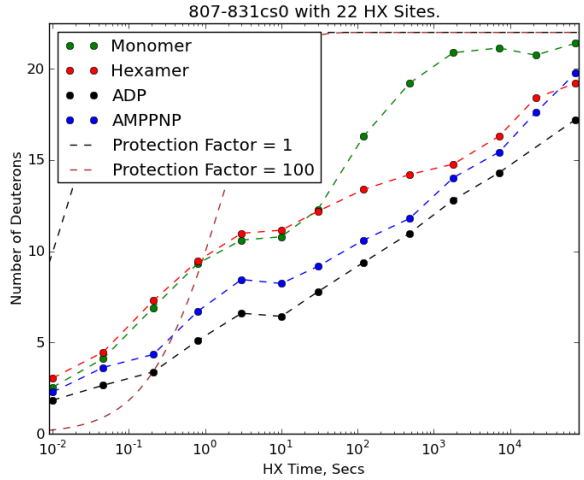

794-806cs0 with 11 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

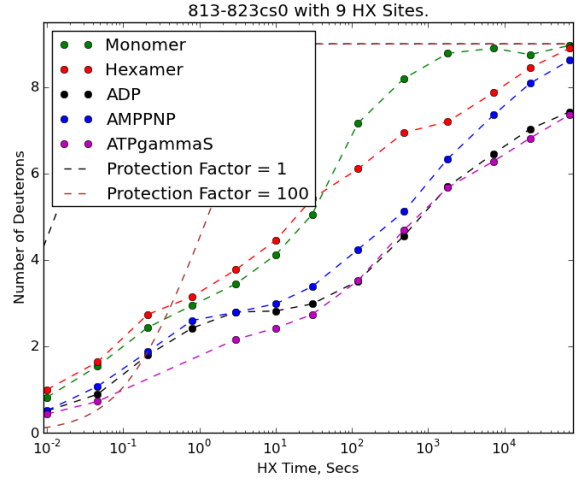

794-809cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

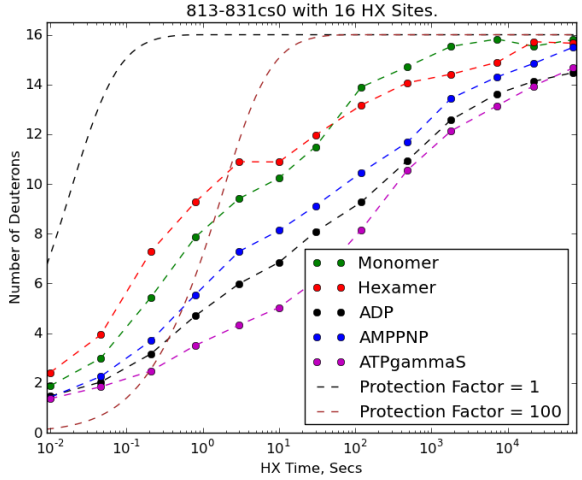

794-812cs0 with 17 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

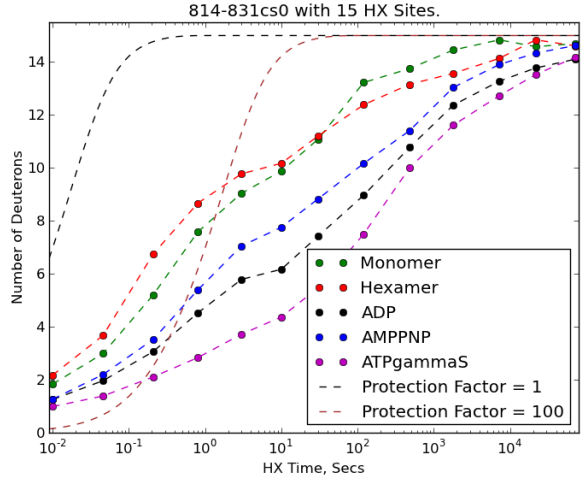

794-814cs0 with 19 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

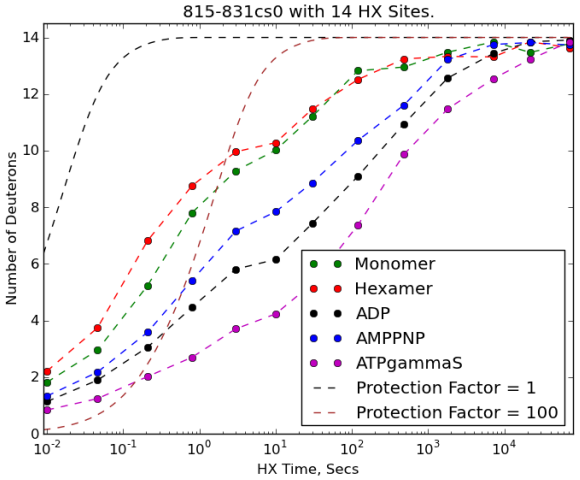

796-812cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

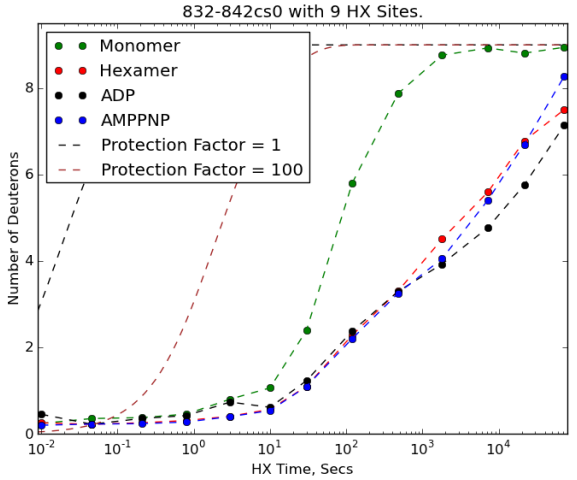

807-831cs0 with 22 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

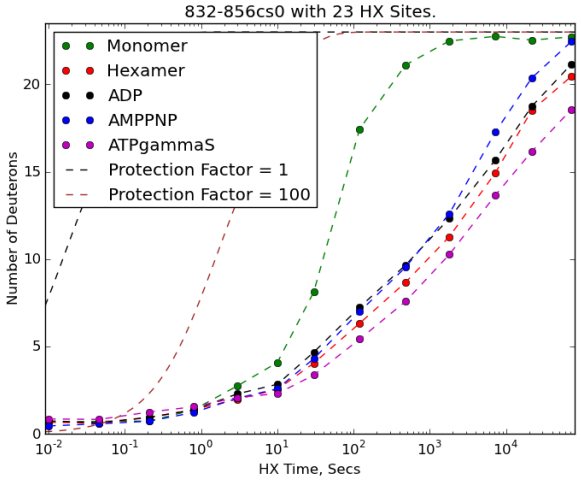

813-823cs0 with 9 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

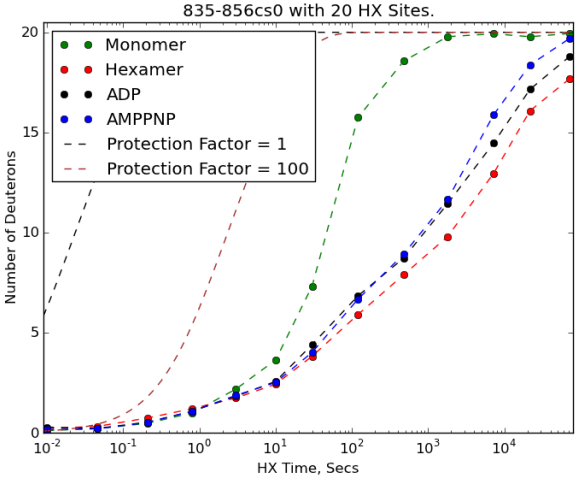

813-831cs0 with 16 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

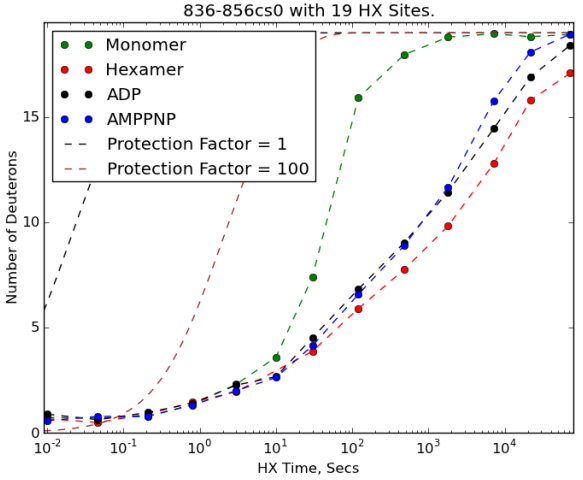

814-831cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

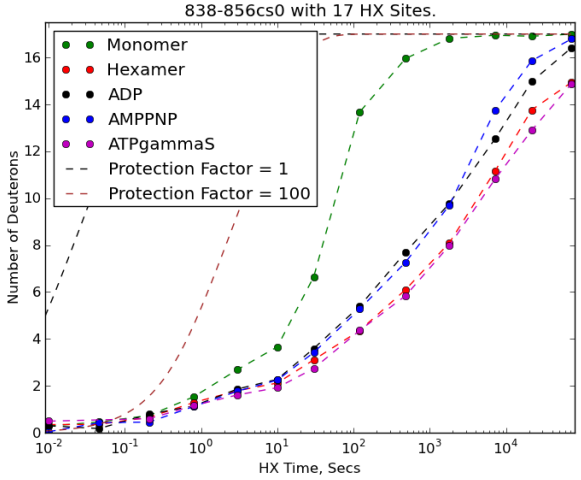

815-831cs0 with 14 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

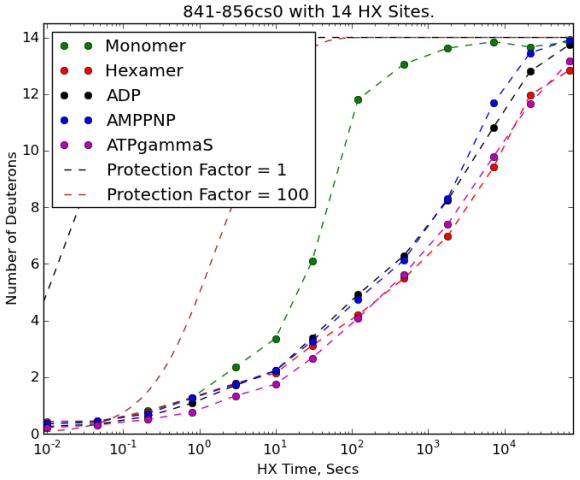

832-842cs0 with 9 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

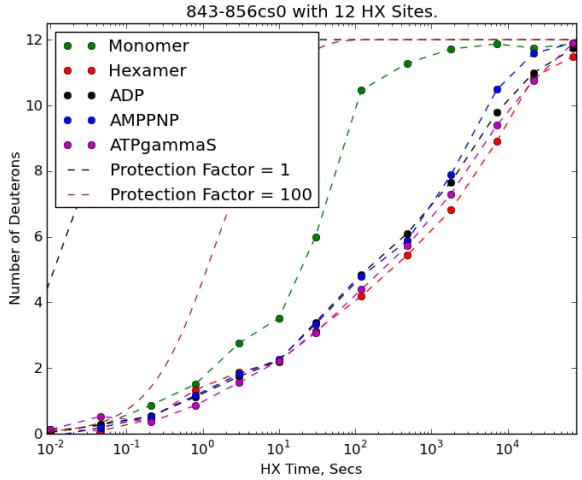

832-856cs0 with 23 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

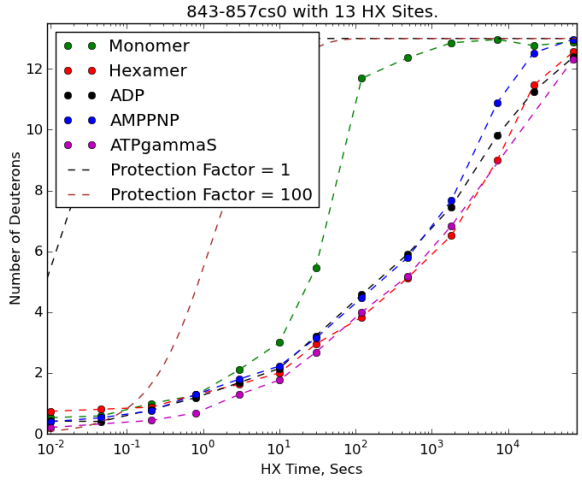

835-856cs0 with 20 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

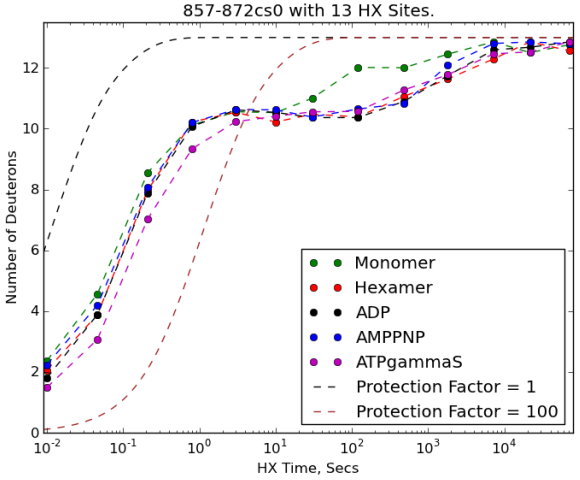

836-856cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100

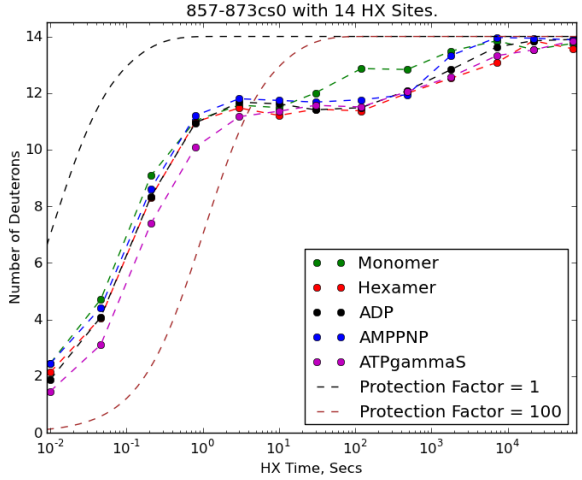

838-856cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

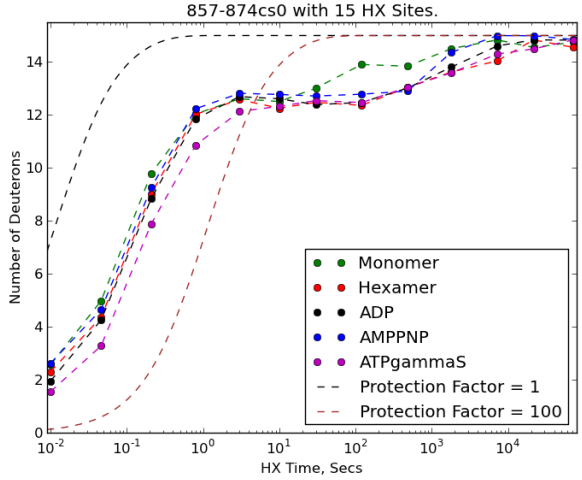

841-856cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

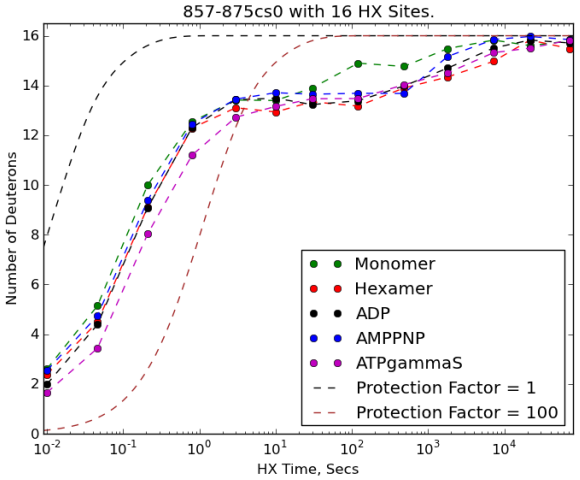

843-856cs0 with 12 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

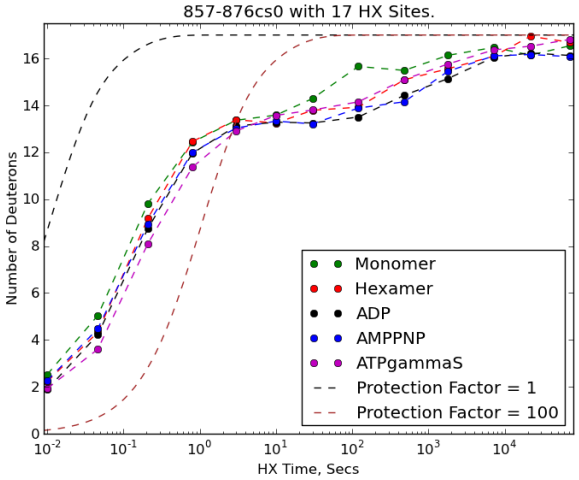

843-857cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

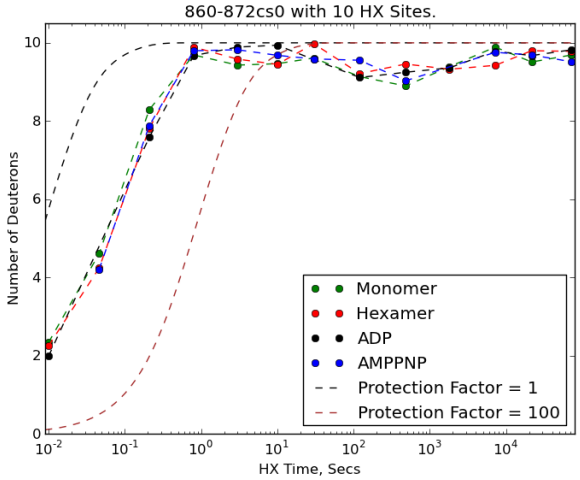

857-872cs0 with 13 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

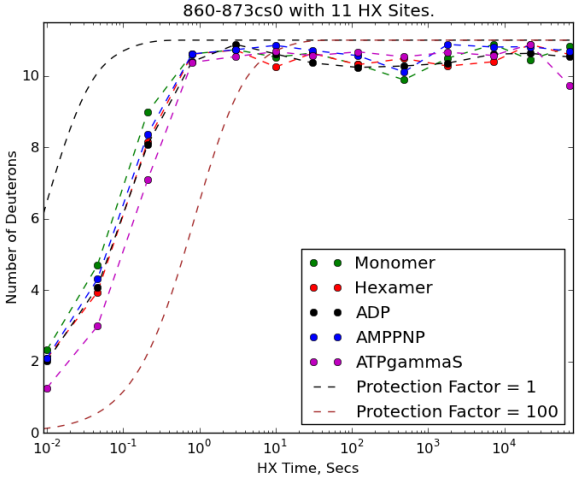

857-873cs0 with 14 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

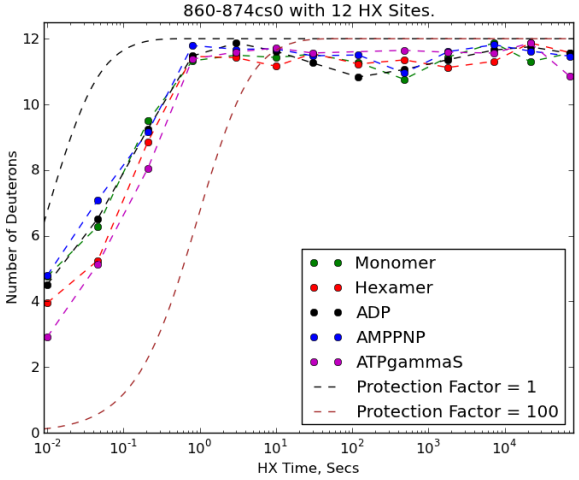

857-874cs0 with 15 HX Sites.
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100
Number of Deuterons
HX Time, Secs

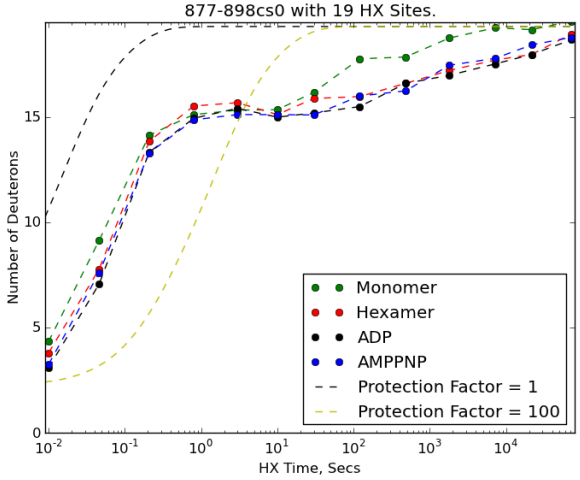

857-875cs0 with 16 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

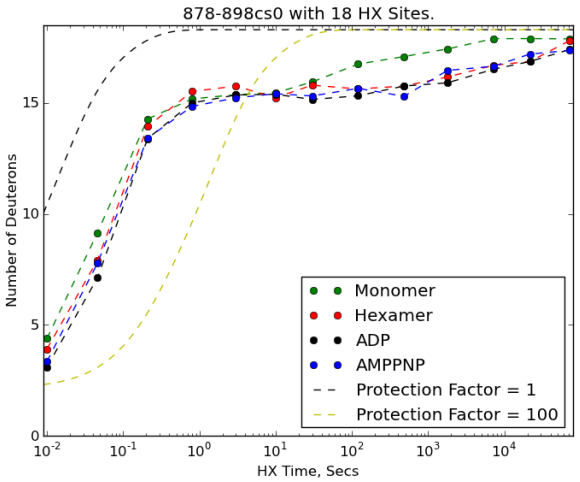

857-876cs0 with 17 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100

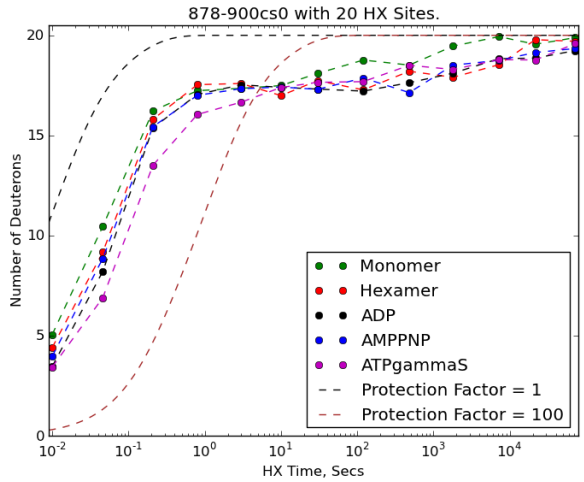

860-872cs0 with 10 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100


860-873cs0 with 11 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100


860-874cs0 with 12 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100


877-898cs0 with 19 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100


878-898cs0 with 18 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
Protection Factor = 1
Protection Factor = 100


878-900cs0 with 20 HX Sites.
Number of Deuterons
HX Time, Secs
Monomer
Hexamer
ADP
AMPPNP
ATPgammaS
Protection Factor = 1
Protection Factor = 100