

**Table S3: Average number of deuterons incorporated in Sse2 + ATP and in Sse2-Strep-Tag II in complex with Ssa1-His<sub>10</sub>**

PEPTIDE			AVERAGE NUMBER OF DEUTERONS INCORPORATED						
Start	End	Mass (exp) [Da]	HX time	10 s	30 s	2 min	10 min	2 h	100%
26	39	1499.8	Sse2 + ATP	4.6	6.6	8.0	8.6	8.4	8.8
			Sse2-Ssa1 complex	2.9	2.7	3.9	5.7	8.0	
31	39	959.5		2.4	3.5	4.0	4.1	4.1	4.4
				1.0	1.4	2.4	2.5	3.7	
40	68	3192.7		13.4	15.2	16.6	18.1	18.7	19.1
				8.8	10.2	11.4	13.8	16.9	
69	81	1589.9		2.6	2.9	3.6	5.1	6.2	7.8
				2.3	2.8	3.5	4.8	6.0	
74	81	1022.5		1.8	2.0	2.3	3.1	3.5	3.4
				1.8	2.2	2.3	3.3	3.5	
75	81	909.5		1.7	1.8	1.9	2.2	2.5	2.6
				1.6	1.6	1.7	2.1	2.4	
93	103	1169.7		2.3	2.6	2.8	3.3	4.3	7.1
				2.2	2.4	2.6	3.2	4.1	
104	118	1619.8		4.5	6.0	6.5	6.9	7.3	9.2
				4.3	5.6	6.1	6.7	7.0	
106	118	1391.7		4.1	5.4	5.8	6.2	5.9	7.6
				3.8	5.1	5.6	5.8	5.9	
122	140	2204.2		4.6	6.0	7.0	8.0	8.6	11.0
				4.0	4.9	6.0	7.4	8.3	
123	142	2259.1		4.6	5.8	6.7	7.8	8.6	11.6
				3.9	4.5	5.9	7.2	8.4	
144/145	159/160	1938.9		0.6	1.1	1.5	1.7	2.7	10.9
				0.6	1.1	1.3	1.7	2.6	
156/158	165/167	970.5		3.5	3.9	4.3	5.2	5.4	5.6
				2.2	2.8	3.2	3.4	4.1	
160	177	1849.0		0.3	0.5	0.9	1.9	2.6	12.6
				0.3	0.5	0.7	1.7	2.5	
160	179	1991.1		0.3	0.4	0.8	1.8	2.6	13.8
				0.3	0.3	0.6	1.9	2.4	
168	177	1082.6		0.3	0.4	0.9	1.6	1.8	8.7
				0.2	0.3	N.D.	1.4	1.8	
186	201	1775.0		2.6	3.1	3.4	3.6	3.5	7.3
				2.4	2.8	3.3	3.5	3.5	
186	203	1989.1		2.6	3.1	3.5	3.5	3.4	8.7
				2.5	2.9	3.3	3.3	3.3	
202	211	1094.5		0.2	0.2	0.2	0.4	0.7	4.9
				N.D.	0.2	0.3	0.2	0.4	
202	212	1181.5		0.2	0.2	0.2	0.4	0.7	5.8
				0.1	0.2	N.D.	0.1	0.2	

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<b>202</b>	<b>214</b>	1425.6		0.3	0.3	0.3	0.4	0.8	7.4
				0.2	0.3	0.3	0.2	0.3	
<b>215</b>	<b>221</b>	837.4		1.0	1.2	1.5	1.7	1.9	4.0
				0.8	1.2	1.3	1.4	1.6	
<b>215</b>	<b>236</b>	2482.3		0.8	1.2	1.9	3.3	4.7	12.7
				0.8	1.1	1.8	3.1	4.6	
<b>216</b>	<b>227</b>	1335.7		0.6	0.8	1.3	2.0	3.1	7.5
				0.5	0.8	0.9	1.8	3.2	
<b>222</b>	<b>236</b>	1662.8		0.5	0.9	1.3	2.3	2.5	7.8
				0.7	1.1	1.5	2.2	2.5	
<b>222</b>	<b>240</b>	2152.1		0.6	1.0	1.3	2.1	2.7	9.9
				0.6	1.1	1.4	1.9	2.6	
<b>237</b>	<b>243</b>	850.4		0.2	0.3	0.3	0.3	0.6	3.9
				0.3	0.3	0.5	0.3	0.6	
<b>269</b>	<b>289</b>	2216.2		4.4	4.9	5.7	6.4	7.6	14.8
				3.5	3.9	4.5	5.9	7.7	
<b>271</b>	<b>289</b>	2032.1		4.2	4.6	5.4	7.6	10.0	12.5
				3.1	3.4	4.2	5.7	7.8	
<b>272</b>	<b>289</b>	1961.1		4.1	4.7	5.3	7.5	9.6	11.7
				3.1	3.4	4.2	5.8	7.3	
<b>293</b>	<b>301</b>	990.4		1.4	1.6	2.2	3.4	4.1	4.4
				1.4	1.8	2.3	3.3	4.1	
<b>309</b>	<b>314</b>	682.4		0.1	N.D.	0.5	0.9	2.1	2.4
				N.D.	N.D.	0.5	1.2	2.1	
<b>309</b>	<b>325</b>	1939.1		2.7	3.6	4.9	6.6	8.3	11.2
				2.6	3.6	4.9	6.6	8.1	
<b>309</b>	<b>330</b>	2450.4		2.6	3.6	5.1	7.3	10.6	15.8
				2.5	3.4	4.9	7.1	9.8	
<b>315</b>	<b>330</b>	1786.0		1.7	2.2	2.6	3.9	6.0	11.2
				1.6	1.8	2.4	4.0	6.1	
<b>315</b>	<b>337</b>	2590.4		3.3	3.7	4.6	6.7	10.7	17.1
				3.5	4.0	5.0	7.0	11.1	
<b>331</b>	<b>337</b>	822.4		0.7	0.8	0.9	1.2	2.4	3.2
				0.7	0.8	0.9	1.2	2.4	
<b>337</b>	<b>350</b>	1513.9		0.7	1.5	1.7	3.3	5.5	8.3
				N.D.	N.D.	1.6	1.6	N.D.	
<b>337</b>	<b>357</b>	2271.3		0.7	1.5	1.7	3.2	7.2	15.3
				0.6	N.D.	1.4	N.D.	N.D.	
<b>338</b>	<b>357</b>	2124.2		0.8	1.1	1.6	2.7	7.2	13.8
				0.6	0.9	1.2	1.4	3.4	
<b>338</b>	<b>366</b>	3054.8		3.2	4.8	5.8	7.7	12.7	19.9
				1.1	1.8	3.1	4.9	8.3	
<b>351</b>	<b>366</b>	1706.0		2.0	3.3	4.1	4.7	5.5	9.5
				1.4	1.2	2.5	3.8	5.4	
<b>358</b>	<b>366</b>	948.5		2.4	3.5	4.0	5.2	5.3	5.0
				0.8	1.2	2.0	3.5	4.9	
<b>358</b>	<b>378</b>	2150.1		4.8	6.7	7.2	7.8	9.5	13.2
				2.6	3.8	5.5	7.0	8.6	
<b>367</b>	<b>378</b>	1219.6		1.0	1.3	1.7	2.0	2.7	6.9
				0.7	1.4	1.7	1.9	2.5	
<b>379</b>	<b>387</b>	953.5		2.7	2.8	2.8	3.1	3.8	4.2
				2.0	2.3	2.6	2.8	3.0	

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<b>379</b>	<b>394</b>	1884.0		6.5	7.0	7.3	8.1	8.8	9.2
				4.8	6.2	6.8	7.4	8.0	
<b>388</b>	<b>394</b>	948.6		2.3	2.8	3.1	3.5	3.5	3.6
				1.5	2.0	2.6	3.0	3.5	
<b>388</b>	<b>403</b>	1954.0		3.0	3.5	4.0	4.7	6.0	8.9
				2.4	3.3	3.7	4.5	6.3	
<b>388</b>	<b>405</b>	2218.1		2.9	3.3	3.7	4.6	5.9	10.2
				2.3	2.8	3.4	4.0	6.0	
<b>404</b>	<b>413</b>	1297.5		3.4	3.7	3.7	4.0	4.3	5.0
				3.1	3.4	N.D.	3.8	4.3	
<b>404</b>	<b>416</b>	1681.8		4.0	4.7	5.0	5.7	6.4	6.6
				3.9	4.4	4.9	5.5	6.2	
<b>406</b>	<b>416</b>	1417.6		3.6	4.1	4.4	4.8	5.0	5.3
				3.5	4.0	4.3	4.7	4.9	
<b>417</b>	<b>430</b>	1538.8		3.0	3.0	3.1	4.3	5.7	7.0
				3.0	3.0	3.3	4.2	5.7	
<b>431</b>	<b>439</b>	1058.5		1.5	1.9	2.2	2.4	2.3	4.1
				1.5	1.8	2.4	2.2	2.2	
<b>431</b>	<b>441</b>	1276.6		1.6	2.4	2.9	3.3	3.2	5.5
				1.9	2.4	2.8	3.0	3.2	
<b>434</b>	<b>441</b>	949.4		1.2	1.8	2.2	2.4	2.4	3.8
				1.1	1.8	2.1	2.2	2.3	
<b>442</b>	<b>458</b>	1815.0		5.9	6.4	6.4	7.5	7.5	9.4
				5.7	6.3	6.4	7.0	7.8	
<b>467</b>	<b>482</b>	1852.1		3.2	3.4	3.9	N.D.	N.D.	N.D.
				3.3	3.3	3.9	N.D.	N.D.	
<b>490</b>	<b>495</b>	695.4		0.9	1.2	1.8	2.4	2.7	2.8
				1.0	1.3	1.9	2.2	2.8	
<b>501</b>	<b>515</b>	1632.8		2.3	2.7	3.1	4.7	6.7	8.9
				2.4	2.6	3.2	4.8	6.6	
<b>501</b>	<b>521</b>	2320.1		7.6	8.6	8.6	9.0	8.8	8.8
				7.0	8.4	8.5	8.8	8.7	
<b>522</b>	<b>535</b>	1588.9		7.2	7.8	8.3	8.9	8.7	8.6
				6.8	7.4	8.3	8.5	8.6	
<b>522</b>	<b>539</b>	1990.2		9.6	10.4	11.0	12.4	12.4	12.2
				9.3	10.1	11.0	11.9	12.3	
<b>540</b>	<b>546</b>	788.4		1.6	2.0	2.3	2.5	2.4	3.3
				1.6	2.0	2.6	2.6	2.8	
<b>540</b>	<b>547</b>	901.5		1.7	2.0	2.3	2.4	2.8	3.9
				1.6	2.1	2.1	2.3	2.6	
<b>540</b>	<b>549</b>	1130.6		1.9	2.3	2.9	3.5	3.8	4.9
				2.1	2.5	3.0	3.5	3.7	
<b>540</b>	<b>550</b>	1243.6		1.9	2.4	3.0	3.5	4.4	6.0
				2.0	2.4	2.9	3.5	4.3	
<b>550</b>	<b>563</b>	1740.9		1.3	2.4	4.6	6.0	7.9	8.3
				0.7	0.8	0.9	2.7	5.5	
<b>551</b>	<b>563</b>	1627.8		1.2	2.5	4.3	5.9	7.5	7.7
				0.6	1.0	1.4	2.8	5.1	
<b>593</b>	<b>605</b>	1475.8		1.0	1.4	3.0	5.6	7.2	7.8
				1.0	1.5	2.7	4.1	6.0	
<b>611</b>	<b>624</b>	1617.7		5.1	6.0	6.5	6.4	6.2	6.6
				3.9	4.8	5.4	5.8	6.4	

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<b>625</b>	<b>631</b>	864.4		0.2	0.5	1.8	3.5	3.8	4.0
				0.1	0.2	0.5	1.5	2.9	
<b>632</b>	<b>642</b>	1218.7		2.3	4.5	6.7	7.7	7.6	8.2
				2.2	3.1	5.0	7.0	7.9	
<b>632</b>	<b>655</b>	2741.6		11.4	14.5	17.1	18.3	18.2	18.3
				10.1	12.2	15.2	17.4	18.2	
<b>654</b>	<b>664</b>	1292.6		6.0	6.4	6.0	6.2	6.0	6.8
				5.8	6.2	6.1	6.0	5.7	
<b>670</b>	<b>690</b>	2379.0		10.1	11.2	10.5	10.6	10.1	10.4
				9.8	10.6	10.5	10.2	10.1	