Supplemental Information

How Does Mg^{2+} Modulate the RNA Folding Mechanism: A Case Study of the G:C W:W Trans Basepair

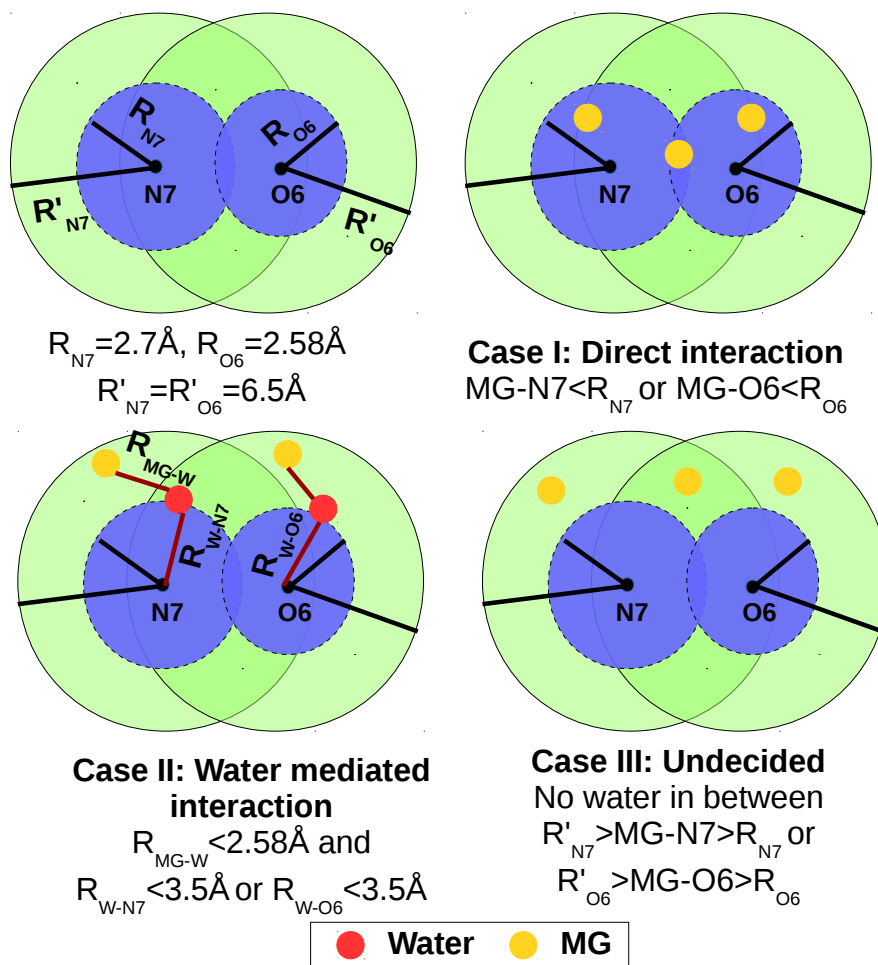**Antarip Halder, Rohit Roy, Dhananjay Bhattacharyya, and Abhijit Mitra**

$R_{N7}=2.7Å, R_{O6}=2.58Å$
$R'_{N7}=R'_{O6}=6.5Å$

Case I: Direct interaction
$MG\text{-}N7<R_{N7}$ or $MG\text{-}O6<R_{O6}$

Case II: Water mediated interaction
$R_{MG\text{-}W}<2.58Å$ and
$R_{W\text{-}N7}<3.5Å$ or $R_{W\text{-}O6}<3.5Å$

Case III: Undecided
No water in between
$R'_{N7}>MG\text{-}N7>R_{N7}$ or
$R'_{O6}>MG\text{-}O6>R_{O6}$

● **Water**   ● **MG**

Figure S1: Pictorial description of the algorithm used to identify Mg^{2+} bound G:C W:W Trans pair.
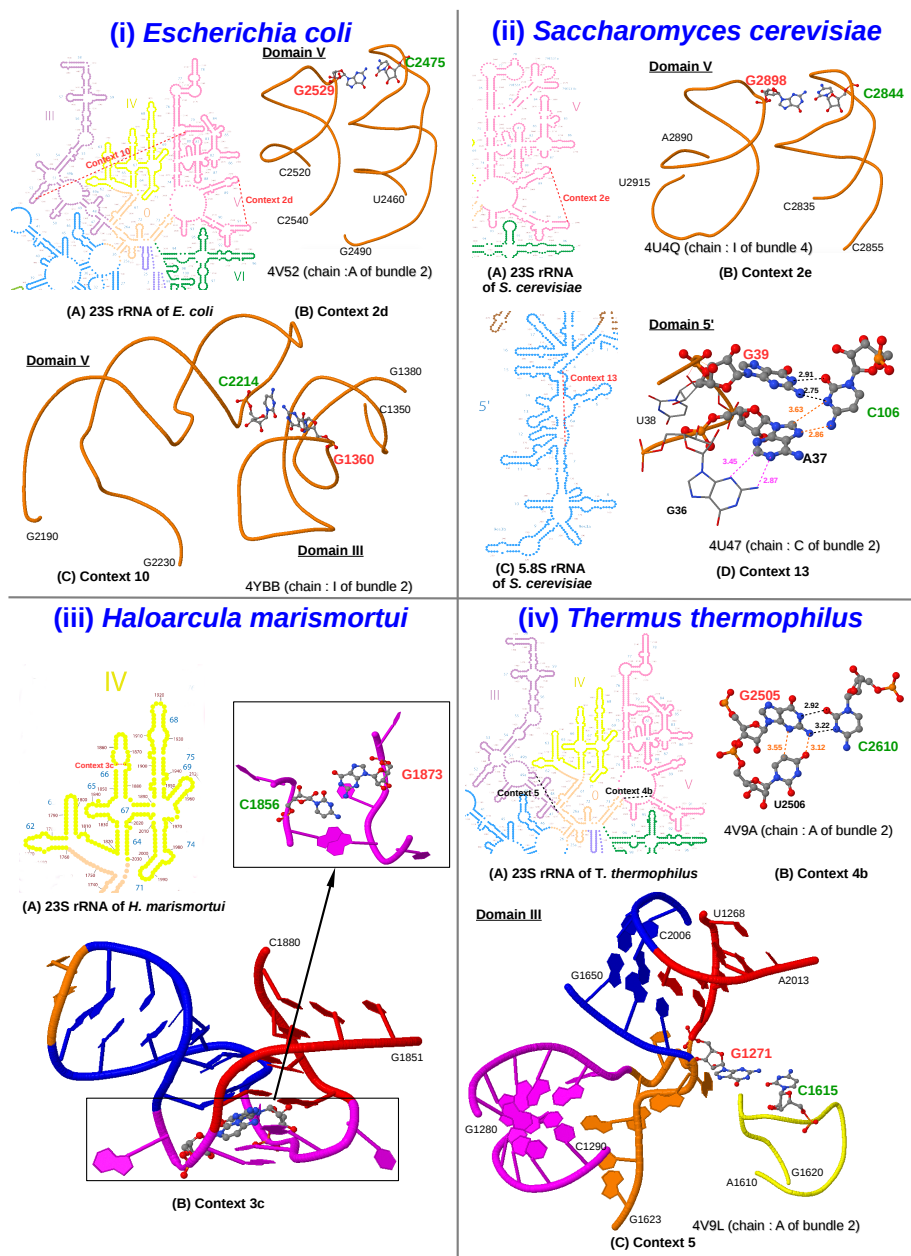
Figure S2: Occurrence context of G:C W:W Trans base pairs, where Mg^{2+} binding at the hoogsteen edge of guanine has been identified in the crystal structures. 2D plots of the 23S rRNA of *E. coli*, *S. cerevisiae*, *H. marismortui* and *T. thermophilus* and 5.8S rRNA of *S. cerevisiae* are taken from RibosomeGallery available with RiboVision.[?]

Table S1: NBO charges (in Hartree a.u.) at the hydrogen atoms of guanine's Watson-Crick edge. Hw and Hs represent the hydrogen atoms of amino group that belong to the Watson-crick edge and sugar edge, respectively.

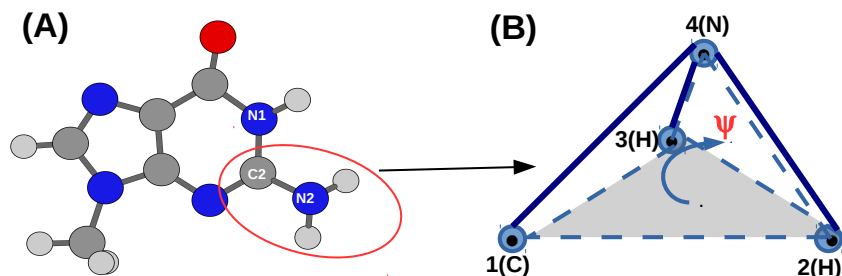| Guanine	N1-H	N2-Hw	N2-Hs
Normal	0.443	0.415	0.433
N7+	0.463	0.443	0.460
N7-Mg	0.467	0.446	0.465
O6-Mg	0.453	0.441	0.465
Both-Mg	0.465	0.445	0.467
Water-Mg	0.460	0.442	0.463

Figure S3: Definition of the improper dihedral angle ψ that defines the extent of pyramidalization of the exocyclic amino group of guanine. A high value of ψ indicates a high pyramidalization.

Table S2: Details of the interaction energy of the B3LYP optimized geometries calculated at MP2 level. E_{MP2}^{int} is the difference between the electronic energies of the pair and the constituent monomers at MP2 level. It has two components E_{HF}^{int} and E_{corr}^{int}, which represents the HF and the correlation component respectively. E_{CPCM}^{int} is the difference between the electronic energies of the pair and the constituent monomers at MP2 level with solvent screening implemented implicitly using CPCM model. BSSE represents the Basis Set Superposition Error calculated using counterpoise method. Finally E^{int} and E_{sol}^{int} represents the BSSE corrected interaction energies energies, *i.e.*, $E^{int} = E_{MP2}^{int} + BSSE$, and, $E_{sol}^{int} = E_{CPCM}^{int} + BSSE$

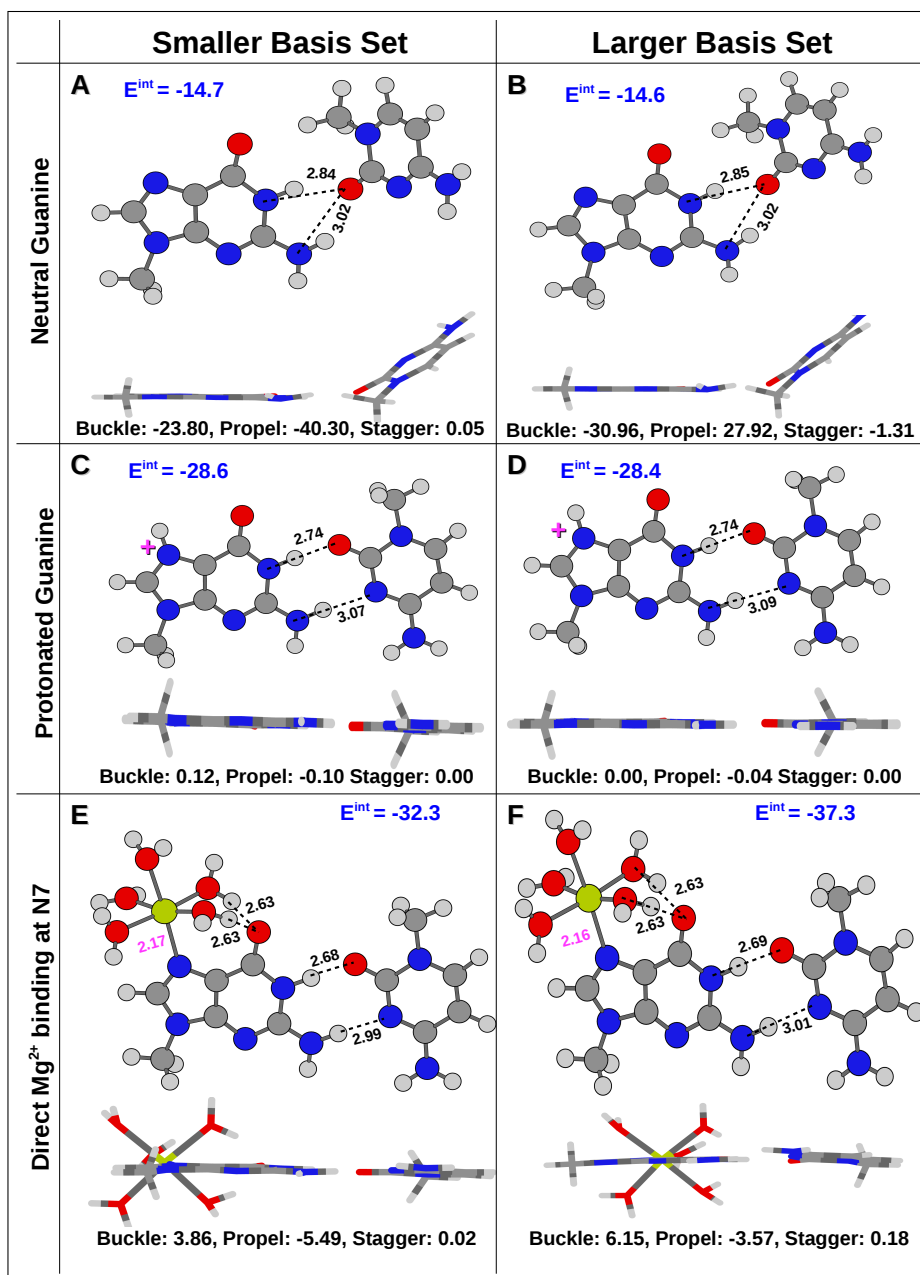| System	E_{MP2}^{int}	E_{HF}^{int}	E_{corr}^{int}	%HF	E_{CPCM}^{int}	BSSE	E^{int}	E_{sol}^{int}
Neutral	-20.0	-14.5	-5.5	72.7	-12.7	3.2	-16.7	-9.5
N7 -Prot	-34.1	-26.5	-7.6	77.8	-16.7	3.6	-30.5	-13.1
Mg-N7-direct	-43.6	-33.2	-10.4	76.2	-17.3	4.0	-39.6	-13.3
Mg-O6-direct	-47.7	-39.0	-8.7	81.8	-20.8	4.7	-43.0	-16.1
Mg-Both(N7,O6)-direct	-45.5	-36.6	-8.9	80.5	-18.1	4.1	-41.5	-14.0
Water mediated	-40.6	-30.2	-10.4	74.5	-16.7	3.9	-36.7	-12.8

Figure S4: Comparison between the B3LYP optimized geometries and corresponding interaction energies obtained for a smaller basis set (6-311++G(d,p) for Mg and 6-31++G(2d,2p) for other atoms, respectively) and for a larger basis set (6-311++G(2df,2pd). Optimized geometries of the G:C W:W Trans base pair with neutral guanine (A & B), N7 protonated guanine (C & D) and guanine where Mg^{2+} is directly bound at N7 (E & F) are shown. For each case, a lateral view of the optimized structure is also shown to highlight the extent of nonplanarity of the interaction. The same has been quantified by Buckle, Propeller Twist and Stagger parameters. Hydrogen bonds are represented by broken lines along with the distances between the donor and the acceptor atoms in Å. Distance between Mg and N7 is reported in magenta colored text. Interaction energies (E_{DFT}^{int}) are reported in kcal/mol.
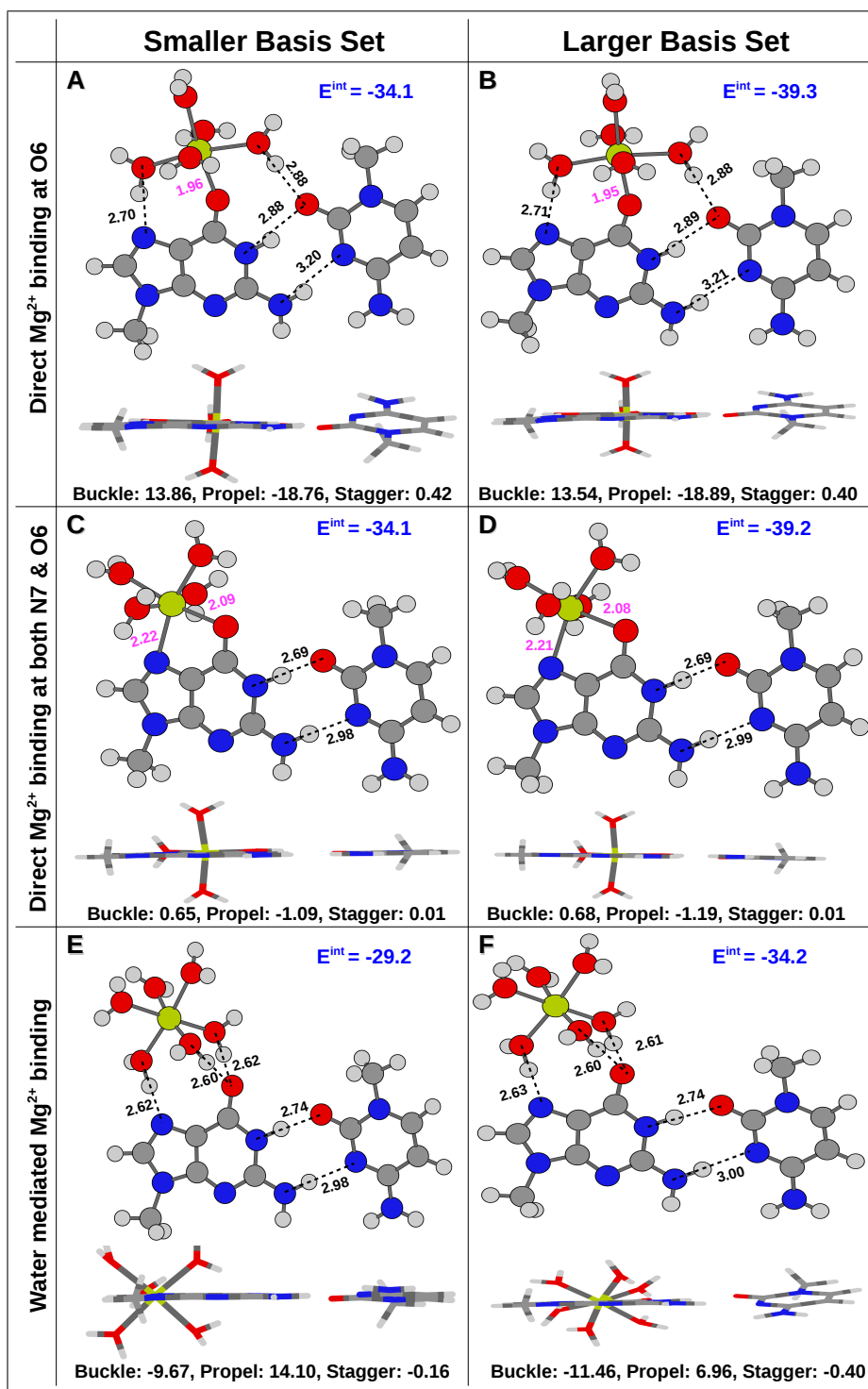
5

Figure S5: Comparison between the B3LYP optimized geometries and corresponding interaction energies obtained for a smaller basis set (6-311++G(d,p) for Mg and 6-31++G(2d,2p) for other atoms, respectively) and for a larger basis set (6-311++G(2df,2pd). Optimized geometries of the G:C W:W Trans base pair with Mg^{2+} guanine, where Mg^{2+} is directly bound at O6 (A & B); where Mg^{2+} is directly bound at both N7 & O6 (C & D) and where Mg^{2+} interacts through its first shell water molecules (E & F) are shown. Other annotations are same as Figure S4
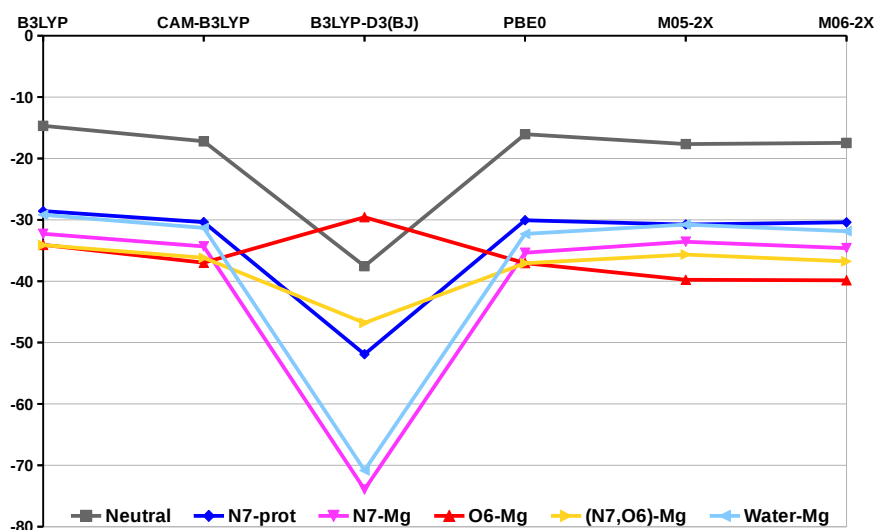
6

Figure S6: Interaction energy of neutral, protonated, and Mg^{2+} bound (in four different modes) G:C W:W Trans base pairs calculated at different DFT functionals. Color scheme and annotations are consistent with Figure 6C.

S1   PDB Ids of the RNA crystal structures studied in this work

S1.1   HD-RNAS (167 files)

URL: http://www.saha.ac.in/biop/www/HD-RNAS.html

2du6 ,2zue ,1f7u ,3kfu ,1b23 ,2fmt ,1yfg ,4arc ,3vjr ,2bte ,2azx ,3eph ,1o0c ,3knl ,3akz ,1euy ,1zjw ,3amt ,1ffy ,1qu2 ,2zni ,3foz ,1evv ,2zm5 ,3tup ,1ehz ,3a3a ,3hl2 ,3add ,2fk6 ,1qf6 ,2dr2 ,2y10 ,2xqd ,3am1 ,1c0a ,1il2 ,2der ,1gtr ,1n78 ,1qtq ,1wz2 ,3tvf ,3uye ,4as1 ,2ct8 ,3knh ,4dh9 ,2csx ,2du5 ,1h4s ,3rg5 ,1ser ,4gaq ,3uz6 ,1j1u ,3uz8 ,1j2b ,1gax ,1i6u ,2vqe ,3r8n ,3u5b ,2zjr ,3r8s ,1mms ,1vqo ,3v2d ,3u5d ,1un6 ,2xg0 ,1u8d ,1xok ,2vpl ,1zho ,2nz4 ,1hr2 ,1gid ,1c9s ,1sj3 ,3nkb ,3g78 ,2z75 ,2r8s ,2gcv ,1m5o ,3cul ,3d2v ,3f2q ,4enc ,2xnz ,3npq ,3irw ,3v7e ,4fe5 ,1y26 ,3q3z ,3gx5 ,3suh ,3dio ,2pxv ,1l9a ,1lng ,3ktw ,1hq1 ,2pxb ,2a64 ,1u9s ,1p6v ,3r9w ,3r9x ,2b57 ,3npb ,1gtn ,1gtf ,3snp ,3pu0 ,3pu1 ,2xd0 ,2zzn ,2zzm ,ozb ,2gje ,3ptx ,3pu4 ,1fir ,3moj ,3hhz ,357d ,3knn ,1s03 ,3siv ,2xdb ,2xdd ,2il9 ,3nmu ,1kxk ,1vfg ,3pyu ,3kiq ,3kir ,3kit ,3pyn ,3u4m ,3ciy ,1jbr ,3nvk ,3hax ,3ovb ,3ovs ,3p22 ,1kh6 ,3pla ,1ddy ,3r4f ,3rw6 ,2zh1 ,3icq ,2gtt ,2nue ,2hvy ,1u6b ,2hw8 ,2jea ,3lwv ,1xjr ,3ds7

S1.2   NDB (838 files)

URL: http://rna.bgsu.edu/rna3dhub/nrlist/

1urn ,3iab ,1ooa ,3r4f ,3zp8 ,3snp ,4a3e ,4pqv ,1kxk ,4bxx ,3siu ,3la5 ,4tzx ,1cvj ,2bh2 ,4a3d ,4a3k ,3b5f ,4lx6 ,4q5s ,1p6v ,3egz ,364d ,1t0d ,1yfg ,3nvk ,1hys ,4boc ,3hk2 ,1i9v ,1mji ,2tra ,1y26 ,4n0t ,2du3 ,3moj ,2du6 ,1jbr ,2d2l ,3cw5 ,1h4s ,1qc0 ,4ngf ,3nkb ,1f7v ,1fir ,4c4w ,1vfg ,4jf2 ,3vjr ,4ol8 ,2ake ,4a93 ,2dlc ,1vby ,3tup ,1u0b ,total 3ouy ,2ozb ,3e2e ,1qu2 ,2g3s ,4kr2 ,2p7d ,3hoj ,1j1u ,1i6u ,4wqy ,3po2 ,1qf6 ,1q96 ,1b23 ,2rfk ,1VY9 ,3amu ,2zuf ,4k4w ,4p5j ,3umy ,2hvy ,1eiy ,1qrs ,4mcf ,1VY8 ,4qi2 ,2zzm ,3cz3 ,4lvz ,4db2 ,4kr6 ,2gjw ,3hjw ,3gtl ,4kr7 ,4k4u ,1qbp ,3am1 ,3hax ,3m3y ,1h3e ,3qsy ,4aob ,2i82 ,4b5r ,1feu ,3dh3 ,3al0 ,3bnq ,2nok ,1s03 ,2pn4 ,3gx5 ,4kzd ,4ts2 ,3fu2 ,1d4r ,4l81 ,1tfy ,4wkj ,1tfw ,4o26 ,4q0b ,3sux ,1nuv ,3p59 ,3zla ,1lng ,3htx ,3ciy ,1yyw ,2vpl ,4w92 ,1u63 ,3hou ,4pqu ,1ykv ,3w3s ,3ucz ,4wfl ,1duq ,4qlm ,4H6F ,1egk ,3a6p ,4jrc ,4qyz ,3f4g ,4qk9 ,4kqy ,1qa6 ,4g7o ,1zx7 ,4csf ,4mgm ,1fjg ,4qk8 ,3j7y ,2AW7 ,4un5 ,4un3 ,1un6 ,4v19 ,4ilm ,3rw6 ,1mfq ,3ivn ,3icq ,2o5i ,2oiu ,3slq ,3j7a ,3siv ,1hmh ,4uyk ,4u7u ,3eph ,2quw ,2zzn ,2ho7 ,4W23 ,1h38 ,3U5F ,2der ,2zni ,2zm5 ,3pla ,2azx ,1efw ,1il2 ,2qbz ,2wj8 ,3wfs ,2qux ,1u9s ,1j2b ,2y9h ,2csx ,3d2v ,3q3z ,2qwy ,2d6f ,4k4y ,2cv1 ,1gax ,3d0u ,3ol8 ,2bte ,4aq7 ,2gdi ,3ol7 ,4gxy ,4frg ,4rge ,3ol9 ,3rg5 ,3dir ,3owz ,1et4 ,1wz2 ,1g1x ,3add ,3adc ,4p9r ,3cun ,3iwn ,3ktw ,4k50 ,3p22 ,4frn ,2gtt ,4FY3 ,2xd0 ,4plx ,4uyj ,1m5o ,1u6b ,1VW3 ,4eya ,4oo8 ,2czj ,4ioa ,4m6d ,3v7e ,1s72 ,4QCN ,2il9 ,3ivk ,2QBG ,3rkf ,1nbs ,3r1c ,4qjd ,2a64 ,3U5H ,3kfu ,1kog ,1VX6 ,1gid ,4mgn ,3hga ,3ok4 ,1rmv ,4ejt ,3j06 ,4lck ,4W21 ,1rxa ,4ang ,3ahu ,3pdm ,1vtm ,2x1a ,1mdg ,1laj ,1osu ,2c4z ,2c50 ,1p79 ,2fz2 ,4afy ,4alp ,2xnr ,4lq3 ,4jiy ,4n2s ,333d ,3u2e ,2x1f ,1h2c ,4ohy ,4n2q ,3qjp ,2r7u ,2r7v ,4qu6 ,4lmz ,4faw ,2r7s ,3o8c ,3mj0 ,2tmv ,4r3i ,3hsb ,4ms9 ,4ohz ,2r7t ,283d ,3pf4 ,3qsu ,3gpq ,3rtj ,2vop ,1g2j ,3b0u ,3nj6 ,4dwa ,3q0q ,3q0r ,3q0s ,2a1r ,4jzv ,4jvh ,3k5q ,3k5y ,3k5z ,3k61 ,3k62 ,3k64 ,4tu0 ,3pf5 ,3rc8 ,3t3o ,1b2m ,2voo ,4i67 ,2xs7 ,4rkv ,3qgc ,1l3z ,1kq2 ,4hot ,4hos ,3avt ,4nku ,4lj0 ,2asb ,4j7m ,4qu7 ,3nna ,2g91 ,1n1h ,413d ,3o8r ,3v71 ,3v6y ,2xs2 ,3bsb ,4j7l ,4oau ,1nb7 ,4hor ,1fxl ,2bbv ,1si3 ,4nl3 ,3nma ,1i5l ,1pgl ,3mij ,3nmr ,4jab ,255d ,2q66 ,2r7w ,4oav ,3t5n ,3v74 ,3l26 ,1uvk ,4rcj ,1g2e ,4kre ,3nnc ,4d25 ,1uvi ,3ice ,3gib ,2c0b ,2po1 ,4ola ,3pey ,2q1r ,3g9y ,2vnu ,4am3 ,3mdg ,3mdi ,4e59 ,4u35 ,2v7r ,4u34 ,259d ,402d ,4cs1 ,3iev ,1wpu ,3sqw ,1uvj ,2jea ,3czw ,4fts ,4kxt ,1cwp ,4e78 ,2xs5 ,4c8y ,4g9z ,3r1e ,4al7 ,3nd3 ,3q0o ,3i5x ,3i5y ,1wmq ,1av6 ,2a8v ,4qm6 ,4ii9 ,4mdx ,2xgj ,4krf ,4c8z ,2vuq ,2a0p ,3p4c ,3p4d ,4c40 ,4f1n ,2xzo ,2b2d ,3jxr ,3oin ,2xli ,1kd5 ,438d ,1kfo ,3ie1 ,1uvm ,3q0p ,2bx2 ,1ddl ,3o7v ,2jlu ,2jlw ,2vrt ,4g0a ,3bx3 ,2g4b ,3aev ,3er9 ,2von ,1n38 ,4gv9 ,3kmq ,2f8k ,3knc ,4o8j ,3rer ,1uvl ,1pvo ,4ba2 ,4jvy ,4fsj ,2vod ,1zse ,1zdj ,4e58 ,2gxb ,3gvn ,421d ,479d ,4msr ,3bnt ,1bmv

,4ht9 ,4n48 ,3bx2 ,4dzs ,4b3g ,4ftb ,3kms ,3nl0 ,422d ,472d ,1dqh ,4jrd ,377d ,3ibk ,1m8y ,4ngd ,3qrr ,3bsx ,4nha ,4f3t ,3uld ,3vnu ,1wne ,165d ,2y8y

,439d ,4l8h ,3eqt ,2r22 ,2jlz ,1xpo ,1xpr ,1xpu ,1knz ,3fht ,2izn ,2y8w ,3avu ,2v6w ,4fvu ,3l25 ,4j39 ,3pkm ,4jk0 ,4w5n ,3qjj ,3qjl ,1zh5 ,3qrp ,1i9x ,1j6s

,4j5v ,2jlx ,3d2s ,atw ,1n35 ,1uvn ,1ytu ,3vnv ,4nlf ,3fs0 ,1lnt ,157d ,3cjz ,4jrt ,4knq ,2ix1 ,354d ,3avv ,4e6b ,2pjp ,2r20 ,433d ,4pei ,4f02 ,3bso ,1fuf

,3boy ,2py9 ,3m85 ,3q2t ,3bsn ,3cgp ,3cgr ,3cgs ,3ssf ,1rna ,4kyy ,2gje ,3dd2 ,3m7n ,3nnh ,2ann ,2e9r ,4c9d ,4w5r ,3adi ,1l2x ,4h5p ,1b7f ,2e9z ,387d

,4tv0 ,3hxm ,3r2d ,4ay2 ,353d ,1csl ,2a43 ,466d ,435d ,405d ,3q50 ,2nz4 ,4pmw ,1f8v ,2izm ,1k8w ,3avw ,1mhk ,397d ,4gha ,2val ,1m8w ,4peh ,3r2c ,4bw0

,1zbi ,1zbl ,4oq8 ,3avx ,2bgg ,3ncu ,3lrr ,3k49 ,3avy ,2j0s ,7msf ,3ho1 ,3tmi ,2xsl ,4pcj ,2w89 ,420d ,3og8 ,1jid ,1jzv ,4w5t ,2iz9 ,4ato ,4kji ,3hm9 ,3sn2

,4h8k ,406d ,398d ,1f1t ,1j9h ,3p6y ,4bwm ,2zy6 ,1zev ,2jlt ,4m59 ,4w5q ,2bu1 ,3glp ,2oe5 ,4m7d ,4w5o ,1u1y ,2e9t ,3hjf ,1f27 ,3lrn ,3tzr ,3sj2 ,1o9m

,2ao5 ,3r9w ,2db3 ,4oo1 ,4m7a ,4ill ,1t0k ,4qil ,2ec0 ,1e7k ,1sa9 ,2hw8 ,1saq ,4pdb ,4e5c ,4ijs ,1UTF ,3mqk ,3szx ,1t0e ,4fxd ,4ghl ,2bq5 ,5msf ,4jah ,2dr8

,361d ,3syw ,1mwl ,3bnl ,4qqb ,6msf ,3ova ,2fqn ,2az2 ,3td0 ,4k31 ,2grb ,4jng ,3bt7 ,1zbh ,1xok ,2o3x ,3td1 ,4ktg ,3mei ,2qek ,4bhh ,4u8t ,1br3 ,1ec6

,1ntb ,4hkq ,4oog ,2o3v ,4kq0 ,409d ,1duh ,1sds ,3rzo ,1yzd ,1q2r ,4gg4 ,4nfo ,4qik ,2zi0 ,1nlc ,2awe ,2gic ,3ptx ,3pu0 ,4iqs ,3s1m ,3s1n ,2f8s ,3bnp ,2zko

,1xpe ,280d ,4j1g ,1gtn ,1gtf ,4o41 ,4mce ,1rpu ,2qk9 ,4erd ,3erc ,4lgt ,3npn ,3loa ,1yz9 ,3ks8 ,1xjr ,2nue ,3p4b ,3pu1 ,3zc0 ,1qcu ,3agv ,4wsb ,3r9x ,4wsa

,4wrt ,3b31 ,4py5 ,3ftm ,1kh6 ,1utd ,3s1r ,3ts0 ,1dfu ,429d ,4ig8 ,1r9f ,2q1o ,4k27 ,3s2d ,1rlg ,4enb ,3wbm ,4oji ,2f8t ,3ts2 ,2i91 ,3s14 ,2ply ,1sdr ,2xb2

,1VW4 ,3s49 ,3s15 ,3ftf ,2nug ,2pxv ,3s16 ,1i6h ,3r1d ,3s17 ,3e5c ,2b3j ,1qln ,488d ,3nvi ,3nj7 ,3po3 ,3k4v ,1mzp ,4m30 ,3t5q ,4a3g ,4gcw ,1jbs ,4m4o

,1m8v ,2w2h ,1s77 ,1yvp ,2ez6 ,4kz2 ,3fo4 ,1msw ,4e48 ,3f73 ,1r3e ,1f7y ,4c7o ,1e8o ,3bsu ,1ser ,4ifd ,1a9n ,4b3o

S1.3 Complete dataset (2464 files)

X-ray crystal structures with resolution less than 3.5Å (1873 files

2xpj ,3hga ,3ok4 ,4ejt ,1rxa ,3wzi ,4ang ,3ahu ,2x1a ,1mdg ,1laj ,1osu ,2c4z ,2c50 ,2c51 ,1p79 ,2fz2 ,4afy ,4alp ,2xnr ,4qvc ,4lq3 ,4jiy ,4n2s ,333d ,3u2e

,2x1f ,1h2c ,1eqq ,4oi0 ,4oi1 ,4ohy ,4n2q ,3qjp ,2r7u ,2r7v ,4yoe ,4qu6 ,4lmz ,2r7s ,3o8c ,3mj0 ,4r3i ,4qvd ,3hsb ,4ms9 ,4ohz ,2r7r ,2r7t ,283d ,3pf4 ,4rcm

,3qsu ,3gpq ,3rtj ,2vop ,1g2j ,3b0u ,3nj6 ,4dwa ,3qg9 ,3q0q ,3q0r ,3q0s ,3af6 ,4s2y ,5bud ,2a1r ,4jzv ,4jvh ,3k5q ,3k5y ,3k5z ,3k61 ,3k62 ,3k64 ,4tu0 ,3t3n

,3pf5 ,1h2d ,3rc8 ,3t3o ,4x9e ,1b2m ,2voo ,4i67 ,2xs7 ,4rby ,4rbz ,4rc0 ,4rkv ,3qgb ,3qgc ,4s2x ,1l3z ,4jzu ,1kq2 ,4hot ,4hos ,3avt ,4nku ,4lj0 ,2asb ,4j7m

,4qu7 ,3nna ,2g91 ,4u3p ,4xk0 ,1n1h ,4rj1 ,413d ,3o8r ,3v71 ,5bte ,3v6y ,2xs2 ,3bsb ,4j7l ,4oau ,1nb7 ,4hor ,1fxl ,2bbv ,1si3 ,4nl3 ,3nma ,1i5l ,1pgl ,3mij

,3nmr ,4jab ,255d ,2q66 ,2r7w ,4oav ,3t5n ,3v74 ,3l26 ,4tyw ,4tz0 ,4tz6 ,1uvk ,4rcj ,1g2e ,4kre ,3nnc ,1wrq ,4d26 ,4d25 ,1uvi ,3ice ,3gib ,2c0b ,2po1 ,4ola

,4olb ,3pey ,2q1r ,3g9y ,2vnu ,4am3 ,3mdg ,3mdi ,4e59 ,4u35 ,2v7r ,4u34 ,4u37 ,259d ,402d ,4u3l ,4u3o ,4u3r ,4u47 ,4u78 ,4cs1 ,3iev ,1wpu ,3sqw ,3sqx

,1uvj ,2jea ,3czw ,4fte ,4fts ,3pew ,4tyy ,4kxt ,1cwp ,4wkr ,4e78 ,2xs5 ,4c8y ,4g9z ,3r1e ,4al7 ,1rxb ,3nd3 ,3nd4 ,3q0o ,3i61 ,3i62 ,3i5x ,3i5y ,1wmq ,1av6

,3o3i ,2a8v ,4qm6 ,4ii9 ,4mdx ,2xgj ,4krf ,4wal ,4c8z ,4u6m ,4u6l ,2vuq ,2a0p ,3p4c ,3p4d ,4c40 ,4f1n ,3o6e ,4ht8 ,2xzo ,2b2d ,2r7y ,3jxr ,4gv3 ,4gv6 ,3oin

,4al6 ,2xli ,1kd3 ,1kd4 ,1kd5 ,438d ,1kfo ,3ie1 ,1uvm ,3q0m ,3q0p ,2bx2 ,1ddl ,3o7v ,2jlu ,2jlw ,2vrt ,4g0a ,3bx3 ,2g4b ,3aev ,3er9 ,2von ,1n38 ,4wtk ,4wtl

,4wtm ,4wti ,4wtj ,4gv9 ,3kmq ,2xlj ,2f8k ,3knc ,4o8j ,3d0m ,3rer ,1uvl ,5c0y ,1pvo ,4ngg ,4ba2 ,4jvy ,4fsj ,2vod ,1zse ,4iqx ,1zdj ,4e58 ,2gxb ,3gvn ,421d

,479d ,4msr ,2r7x ,3q0n ,1m8x ,3bnt ,1bmv ,4nh5 ,3g0h ,4ht9 ,4n48 ,3bx2 ,4dzs ,4b3g ,4ftb ,3klv ,3kms ,3kna ,3nl0 ,422d ,472d ,3jxq ,1efo ,1dqf ,1dqh

,4jrd ,377d ,3ibk ,3q0l ,1m8y ,4ngb ,4ngc ,4ngd ,3qrr ,3bsx ,4nha ,4f3t ,2bs1 ,3uld ,3vnu ,1wne ,2g8f ,2g8h ,2g8k ,2g8u ,2g8v ,2g8w ,2gun ,165d ,2y8y

,439d ,4l8h ,3eqt ,2g92 ,1g4q ,1fix ,404d ,2ykg ,205d ,2r21 ,2r22 ,4nh3 ,2jly ,2jlz ,1xpo ,1xpr ,1xpu ,1knz ,3fht ,4wta ,4wtc ,4wtf ,4wtg ,2izn ,2iz8 ,2c4q

,2c4y ,4wte ,4wtd ,2y8w ,4zld ,3avu ,2v6w ,4fvu ,3l25 ,2dqo ,2dqp ,2dqq ,4bpb ,3zd6 ,4j39 ,1j8g ,3pkm ,4jk0 ,2jlv ,4w5n ,3qjj ,3qjl ,4x2b ,1yty ,1zh5

,3qrp ,3adl ,1jb8 ,1i9x ,4jgn ,1j6s ,4nh6 ,4j5v ,2jlx ,3d2s ,atw ,3twh ,1n35 ,2g8i ,1uvn ,1ytu ,4nmg ,3vnv ,4nxh ,4nlf ,3fs0 ,1lnt ,3vyx ,157d ,3cjz ,4jrt

,4knq ,2yjy ,4ed5 ,2ix1 ,4wzq ,354d ,3avv ,4e6b ,3dw4 ,3dw6 ,480d ,2pjp ,1pjg ,1pjo ,2r1s ,2r20 ,433d ,4pei ,4f02 ,2bs0 ,4qpx ,3bso ,2ab4 ,3zd7 ,430d ,1fuf

,3boy ,2py9 ,3m85 ,3q2t ,3bsn ,3cgp ,3cgq ,3cgr ,3cgs ,3ssf ,437d ,1rna ,4kyy ,3k1v ,2gje ,3dd2 ,3m7n ,3nnh ,2ann ,2e9r ,4wzm ,3h5x ,3h5y ,1a34 ,4c9d

,4w5r ,3s7c ,3s8u ,3dvz ,3dw5 ,3dw7 ,483d ,3adi ,1l3d ,1l2x ,3q51 ,4h5p ,1b7f ,2e9z ,387d ,4tv0 ,3hxm ,5amr ,3r2d ,1q9a ,4ay2 ,1msy ,353d ,1csl ,2a43

,2h1m ,464d ,466d ,434d ,435d ,405d ,3q50 ,4pmw ,1f8v ,2izm ,1k8w ,3avw ,1mhk ,397d ,4gha ,2val ,1m8w ,4peh ,3r2c ,2anr ,1zl3 ,4bw0 ,1zbi ,1zdh ,4oq8

,3avx ,2bgg ,3ncu ,3lrr ,4fnj ,3k49 ,3k4e ,3avy ,2j0s ,7msf ,4u6k ,1zdi ,3ho1 ,3tmi ,2xsl ,4pcj ,1ik5 ,2w89 ,420d ,3og8 ,3iem ,2bny ,1aq3 ,2xlk ,1jid ,2oe6

,2oe8 ,3gca ,1jzv ,4w5t ,3oij ,2iz9 ,4ato ,4kji ,3hm9 ,3sn2 ,4h8k ,1f1t ,1j9h ,3p6y ,4bwm ,1aq4 ,2dr5 ,2zy6 ,2jlt ,4m59 ,4oe1 ,4w5q ,2b2e ,3gm7 ,2bu1 ,3glp

,2dr7 ,2oe5 ,4m7d ,4w5o ,2b2g ,1u1y ,2e9t ,3hjf ,1f27 ,2dr9 ,2zh1 ,2zh7 ,2zh9 ,3lrn ,3tzr ,4wcq ,4wcs ,3sj2 ,1o9m ,2ao5 ,3r9w ,2db3 ,4oo1 ,2j0q ,4m7a ,4ill

,1t0k ,2drb ,2zh2 ,2zh3 ,2zh4 ,2zh5 ,2zh8 ,2zhb ,4qil ,4pgy ,2ec0 ,1e7k ,1sa9 ,2hw8 ,4f8v ,4wcr ,1saq ,4pdb ,4e5c ,4ijs ,3mqk ,2xdb ,3szx ,4j50 ,4yn6 ,1t0e

,4p20 ,4fxd ,4k32 ,4ghl ,3ex7 ,2bq5 ,5msf ,4jah ,2dr8 ,299d ,361d ,3syw ,301d ,1j7t ,4gpx ,1lc4 ,1mwl ,3dvv ,3bnl ,4qqb ,6msf ,5amq ,2dvi ,2dra ,2zha

,3ova ,1q29 ,2fqn ,2az0 ,2az2 ,2g5k ,3td0 ,4k31 ,2grb ,4jng ,2hyi ,3bt7 ,1zbh ,2zh6 ,1xok ,1zdk ,2f4s ,2f4u ,2o3x ,4gpw ,3td1 ,3s4p ,2be0 ,2bee ,4gpy ,2pwt

,4ktg ,3mei ,3c44 ,2qek ,4bhh ,4wan ,4u8t ,1br3 ,1ec6 ,1di2 ,4jnx ,300d ,359d ,1nta ,1ntb ,4hkq ,1nyi ,4oog ,3wru ,1z7f ,4pmi ,2et4 ,2et5 ,2o3w ,2et3 ,2et8

,2o3v ,2o3y ,1yrj ,4kq0 ,1rc7 ,2oiy ,2oj0 ,4lg2 ,409d ,1duh ,1sds ,3rzo ,1yzd ,1z79 ,4nfp ,4nfq ,1q2r ,4gg4 ,4nfo ,4qik ,2esj ,2zi0 ,3far ,1nlc ,1y90 ,2awe

,2gic ,3ptx ,3pu0 ,3pu4 ,379d ,4iqs ,3s1m ,3s1n ,3rzd ,2f8s ,4f8u ,4pdq ,3bnp ,2zko ,5bs3 ,2b8r ,1xpf ,1xp7 ,1xpe ,280d ,4j1g ,1gtn ,1gtf ,4phy ,2esi ,4o41

,4mce ,1rpu ,2qk9 ,2fcx ,2fcy ,2fd0 ,4erd ,1o3z ,3erc ,4lgt ,3mj3 ,3mja ,3mjb ,3npn ,4en5 ,3loa ,1ze2 ,2oij ,1yz9 ,3ks8 ,4rwp ,3vrs ,4s3n ,1xjr ,4enc ,2nue

,1y6s ,1wvd ,1y6t ,1y73 ,1y95 ,1y99 ,4rne ,3p4b ,3pu1 ,3zc0 ,1qcu ,4r8i ,3agv ,4wsb ,3r9x ,4wsa ,4wrt ,3b31 ,4py5 ,4zcf ,3lqx ,2b8s ,1y3o ,1y3s ,1yxp

,3ftm ,1kh6 ,1utd ,3s1r ,1yy0 ,1q2s ,3ts0 ,1dfu ,429d ,2pn3 ,4ig8 ,1r9f ,2q1o ,4k27 ,3s2h ,3s2d ,2pxl ,4ena ,1rlg ,4enb ,3wbm ,4oji ,2f8t ,1yyk ,3hhz ,3ts2

,2i91 ,3s14 ,2uwm ,3fte ,2ply ,462d ,1sdr ,1yyo ,2xb2 ,4a3b ,3s49 ,3s15 ,3ftf ,2pxb ,2pxe ,2pxu ,2nug ,2pxd ,2pxf ,2pxk ,2pxp ,2pxq ,2pxt ,2pxv ,1hq1

,4tux ,4rwn ,4rwo ,3s16 ,3vyy ,1i6h ,4enn ,2f4t ,3s1q ,3r1d ,2qkb ,4p97 ,3s17 ,1dul ,3e5e ,3e5f ,3e5c ,1zbl ,4qoz ,4l8r ,2b3j ,1qln ,2fk6 ,4u38 ,4msb ,488d

,3nvi ,4m2z ,3nj7 ,4v4f ,1c9s ,3po3 ,1mzp ,4m30 ,2nuf ,3t5q ,4a3g ,4gcw ,1jbs ,4m4o ,1m8v ,2w2h ,1s77 ,1yvp ,3hvr ,1jbt ,4xw7 ,4xwf ,2ez6 ,4kz2 ,3fo4

,3ok2 ,1msw ,4e48 ,3f73 ,1r3e ,4q5v ,4tuw ,1f7y ,4c7o ,1e8o ,1kuq ,3bsu ,1zz5 ,2a04 ,1ser ,3gog ,4ifd ,1s76 ,1a9n ,1dk1 ,4b3o ,3gs5 ,5c7w ,3gao ,2xnz ,3fo6

,4fe5 ,3g4m ,3ger ,1urn ,3iab ,4wcp ,1ooa ,3r4f ,2b57 ,3ges ,3got ,2ees ,2eet ,2eeu ,2eev ,2eew ,3hov ,4a3c ,5c7u ,4fej ,4fel ,2g9c ,4fen ,4feo ,4fep ,3snp

,4a3e ,4pqv ,2oeu ,1kxk ,4bxx ,3siu ,4g6s ,4g6p ,3bbm ,1vtq ,3b5a ,3b5s ,3la5 ,4tzx ,4tzy ,1cvj ,2bh2 ,3hoy ,4a3d ,4a3k ,4ycp ,3b5f ,3b91 ,3bbk ,3b58

,2oue ,4lx6 ,4lx5 ,4q5s ,4x4v ,1p6v ,3egz ,357d ,364d ,1t0d ,3l0u ,1yfg ,4tna ,4xnr ,3nvk ,1hys ,4boc ,4a3l ,1wsu ,1ehz ,3tra ,3hk2 ,6tna ,1tn2 ,1i9v ,3bbi

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,1mji ,2tra ,1y27 ,1y26 ,4n0t ,2det ,2du3 ,2du4 ,4g6r ,1x9c ,1tn1 ,1zev ,2hop ,1zft ,1vc5 ,1tra ,3moj ,1gsg ,2nqp ,2du6 ,2du5 ,1jbr ,4arc ,4pkd ,2d2l ,4a3f ,3cw5 ,3cw6 ,4tra ,1gts ,1h4s ,1qc0 ,1evv ,4ngf ,2nvt ,4x4s ,2d2k ,1f7v ,1zfv ,2bcy ,2fgp ,3gs8 ,2p7f ,1fir ,4c4w ,4x4q ,2npy ,1x9k ,1vfg ,1qtq ,1zfx ,1vc6 ,4qei ,4jf2 ,3vjr ,4ol8 ,2ake ,4a93 ,2dlc ,4nyg ,3ovs ,3ov7 ,1zjw ,2oih ,2oj3 ,2bcz ,1vbx ,1vby ,1vc0 ,3tup ,1u0b ,1vbz ,1h4q ,2hom ,4yvi ,4yvj ,4yvk ,4x0b ,4wc3 ,3ouy ,2npz ,2rd2 ,1euq ,3gs1 ,1f7u ,4x4o ,1exd ,2ozb ,1sjf ,1sj3 ,1sj4 ,3e2e ,2hok ,1qu3 ,4nyb ,4nyc ,1ffy ,1qu2 ,4nyd ,2g3s ,4jxx ,1euy ,4kr2 ,4jyz ,4jxz ,1gtr ,2re8 ,4pr6 ,2hoj ,2hol ,1j1u ,1i6u ,2bj6 ,3x11 ,4wc4 ,2dr2 ,4wc5 ,4x4r ,3ovb ,3wqz ,1o0c ,3wqy ,2hoo ,4wj4 ,4zc7 ,1q93 ,4wc6 ,4wc2 ,4wc7 ,3po2 ,4k4t ,3bnn ,4prf ,1ob2 ,4kr3 ,4by7 ,3bno ,1qf6 ,2vum ,1q96 ,3a3a ,4xjn ,1b23 ,2rfk ,1o0b ,1c0a ,4k4s ,3amt ,3amu ,4kr9 ,2zuf ,4k4w ,1mme ,1qrt ,4ari ,4p5j ,3u56 ,3umy ,2hvy ,1eiy ,1drz ,4rdx ,1qru ,2zue ,1qrs ,5btm ,4mcf ,4qi2 ,2zzm ,3lwv ,3cz3 ,4lvw ,4lvx ,4lvy ,4lvz ,4db2 ,2e2j ,4kr6 ,3lwr ,2gjw ,3hjw ,4as1 ,4qvi ,3u4m ,4qg3 ,4lw0 ,3gtj ,2iy5 ,3gtl ,4kr7 ,4k4u ,3lwq ,3lwo ,3lwp ,1qbp ,3sd3 ,4x4u ,3am1 ,3hax ,4lvv ,4q9q ,4q9r ,2yu9 ,2e2i ,2nvq ,1r9t ,4y52 ,4y7n ,3m3y ,1h3e ,3qsy ,1k9w ,4aob ,3iqp ,2gis ,2i82 ,3iqn ,2ydh ,4b5r ,3iqr ,3zju ,1feu ,3dh3 ,3al0 ,4rum ,3bnq ,2nok ,1s03 ,2pn4 ,3gx6 ,3gx7 ,4kze ,3gx2 ,2fcz ,3gx3 ,3gx5 ,3hl2 ,4x4n ,4kzd ,4ts2 ,3fu2 ,1d4r ,4yb1 ,4yhw ,1zci ,4l81 ,4oqu ,3zjt ,1tfy ,3bns ,4wkj ,1tfw ,4o26 ,4puo ,4ts0 ,4q0b ,3suh ,3sux ,3suy ,1nuj ,1nuv ,3p59 ,1z43 ,3zla ,3irw ,3muv ,4rzd ,1lng ,3htx ,3ciy ,1yyw ,3mut ,3zjv ,3mxh ,3mum ,3mur ,3bnr ,2vpl ,4w92 ,4pwd ,4x4t ,1u63 ,3hou ,4pqu ,1ykq ,1ykv ,3ucu ,4w90 ,3w3s ,1yls ,3ucz ,3ud4 ,3ud3 ,4wfl ,1duq ,4qlm ,3f30 ,3f2t ,3f2x ,3f2y ,3f2w ,3f2q ,3nmu ,2xdd ,1egk ,3a6p ,4jrc ,4qyz ,3f4h ,3f4e ,3f4g ,4qk9 ,2yif ,4kqy ,4tvx ,4qln ,1qa6 ,4g7o ,1zx7 ,2yie ,5btp ,4qka ,4csf ,4mgm ,1y39 ,4qk8 ,1hc8 ,5axw ,5czz ,1mms ,4x4p ,4un5 ,4un3 ,4un4 ,1un6 ,4ilm ,3trz ,3rw6 ,3skr ,1l9a ,3ds7 ,3skw ,3skl ,3skt ,4p3e ,1mfq ,4znp ,3ivn ,3icq ,2o5i ,4k4x ,3slm ,2oiu ,3slq ,3skz ,406d ,2qus ,4meg ,1ddy ,3siv ,3ski ,1hmh ,3b4c ,2o5j ,2ppb ,4uyk ,4u7u ,3epk ,3epj ,3ndb ,3b4a ,2ho6 ,2gcv ,2h0w ,5cd4 ,3eph ,2quw ,2zzn ,4meh ,3b4b ,2ho7 ,2gcs ,2h0x ,4zt0 ,1h38 ,4zt9 ,2der ,2zni ,4k4z ,2zxu ,2zm5 ,3pla ,3npq ,2azx ,1efw ,1il2 ,2qbz ,2wj8 ,4wfs ,2qux ,3foz ,2deu ,1u9s ,1j2b ,2y9h ,1asy ,2cky ,2csx ,2ct8 ,1g59 ,3d2x ,3d2g ,3d2v ,2cv0 ,3q3z ,2qwy ,2d6f ,1asz ,1zho ,2byt ,2cv1 ,2cv2 ,1n78 ,1gax ,1ivs ,2v0g ,4erj ,4erl ,3d0x ,3d0u ,2fmt ,3ol8 ,1s0v ,2bte ,2dxi ,1n77 ,3ol6 ,4aq7 ,2gdi ,4nya ,3ol7 ,4gxy ,4frg ,2r8s ,4rgf ,4rge ,3olb ,3ol9 ,4cqn ,4yb0 ,3rg5 ,4yaz ,3zgz ,3dig ,3dis ,3dj0 ,3dil ,3diz ,3diq ,3dix ,3dim ,3dir ,3dj2 ,3dio ,3diy ,3oxj ,3owz ,1et4 ,1wz2 ,2qkk ,3oxb ,3oxd ,3oww ,3owi ,3ox0 ,3oxe ,3oxm ,3k0j ,1g1x ,4y1m ,1add ,3adc ,3adb ,4p9r ,3cun ,3iwn ,4p95 ,3ktw ,4k50 ,3cul ,4xco ,3p22 ,4frn ,2v3c ,4y1i ,4y1j ,4wfm ,2gtt ,4v9e ,2xd0 ,4yco ,4plx ,4uyj ,1m5o ,1ttt ,1m5k ,1ob5 ,1u6b ,3bo3 ,1m5v ,1m5p ,4eya ,1zzn ,3bo2 ,4v99 ,4oo8 ,2czj ,4m6d ,3v7e ,2il9 ,3ivk ,3rkf ,4pjo ,1nbs ,3hhn ,3r11 ,3r1h ,3r1c ,4qjd ,2a64 ,3akz ,3wfr ,1l8v ,3kfu ,1kog ,1hr2 ,1gid ,3pdr ,4mgn ,4oq9 ,4nia ,3bwp ,4lck ,3eoh ,4fax ,4fau ,4e8p ,4e8r ,4e8q ,4e8n ,4fb0 ,4e8m ,3eog ,4faq ,4e8k ,3igi ,4faw ,3g78 ,4far ,4e8t ,1fg0 ,3g9c ,3g96 ,3g8s ,3g8t ,3l3c ,2nz4 ,4v8i ,4v8h ,4v7x ,4v7z ,4v7y ,4v7w ,4v8g ,1fka ,4v6c ,4v7u ,4v7v ,4v7s ,4v7t ,2uxd ,4u1u ,4u1v ,4u20 ,4u25 ,4u27 ,4u26 ,4u24 ,4v84 ,4v85 ,4wf1 ,4v83 ,2hhh ,2zm6 ,4yhh ,4v95 ,4lf6 ,4ji3 ,4dv7 ,4dr3 ,4khp ,4lf9 ,1ibk ,4lfb ,4ji1 ,4lf4 ,1hr0 ,4lf7 ,4lf8 ,1i94 ,4duy ,4dr2 ,4dv6 ,4ji0 ,1hnz ,1hnw ,1hnx ,1fjg ,1j5e ,4ji7 ,1xnq ,2vqe ,4gkk ,2uxb ,1xmo ,2vqf ,1xnr ,1xmq ,4gkj ,4k0k ,4jv5 ,2e5l ,2uxc ,1n33 ,1ibm ,2uub ,2uuc ,3t1h ,3t1y ,4b3s ,2uua ,2uu9 ,4aqy ,4b3r ,4jya ,4b3t ,4dr5 ,1ibl ,1n32 ,4b3m ,4v6a ,4v9s ,4v9r ,4dr6 ,4v9a ,1vy6 ,4v9n ,1vy7 ,4v90 ,4v9h ,1vvj ,4l47 ,4lsk ,4lnt ,4lt8 ,4tue ,4w2h ,4v5a ,4v9k ,4v9l ,4woi ,4v9c ,4v64 ,4v4h ,4v4q ,4v54 ,4v52 ,4v57 ,4v5e ,4v9b ,4v5j ,4v8x ,4v67 ,4v50 ,4v63 ,4v7j ,4wu1 ,4v5k ,4wzd ,4v51 ,4v6g ,4v7m ,4wzo ,4v7l ,1vy4 ,4wro ,1vy5 ,4w2i ,4wsd ,4wt1 ,4v9i ,4wqr ,4w2g ,4w2f ,4v5d ,4v5c ,4wq1 ,4v5l ,4u4z ,4u3m ,4u53 ,4u4y ,4u4q ,4u56 ,4u3n ,4u55 ,4u4n ,4u51 ,4u4u ,4u52 ,4u50 ,4u4r ,4u3u ,4v8n ,4v5s ,4v5q ,4v8b ,4v5p ,4v5r ,4wr6 ,4v8d ,4wsm ,4wra ,4u6f ,4v88 ,1p9x ,2o44 ,2ogm ,1ond ,2aar ,1jzx ,1j5a ,1k01 ,1jzy ,3pip ,1njp ,3pio ,2d3o ,3dll ,2zjq ,3cf5 ,2zjr ,4io9 ,4ioa ,4z8c ,1ffk ,1y69 ,2qa4 ,3g4s ,3ccj ,1w2b ,2qex ,1n8r ,3ow2 ,1yjn ,3ccr ,1yjw ,1yj9 ,3g6e ,1yi2 ,2otl ,1yit ,3i56 ,1nji ,3ccs ,1k73 ,2otj ,1s72 ,1yij ,3cc2 ,1jj2 ,3cc7 ,3ccl ,3ccq ,3cc4 ,3cce ,3ccv ,3ccu ,3ccm ,1kc8 ,1k8a ,1k9m ,1q81 ,1q82 ,1kd1 ,1m1k ,1m90 ,1vqo ,3g71 ,1vqk ,1yhq ,3cpw ,1vq8 ,1vq9 ,3cd6 ,1vq6 ,3cme ,3cxc ,1kqs ,1vq4 ,1vq5 ,1q86 ,3cma ,1vqn ,1vq7 ,1vql ,1vqp ,1vqm ,1xbp ,1sm1 ,1nwx ,1nkw ,1qvg ,1nwy ,1qvf ,4v9f ,4v8a ,4zer ,4v9q ,4v9p ,4v9o ,4wqy ,4www ,4wqf ,4y4p ,4y4o ,4wqu ,4wpo ,4z3q ,4z3s ,4z3r ,4v8q ,4wt8 ,4v6f ,4v8c ,4v87 ,4v8f ,4v8e ,4w2e ,4ybb ,4v9d

Solution NMR structures (591 files)

124d, 176d, 17ra, 1a1t, 1a3m, 1a4d, 1a4t, 1a51, 1a60, 1a9l, 1ac3, 1afx, 1ajf, 1ajl, 1ajt, 1aju, 1akx, 1al5, 1am0, 1anr, 1aqo, 1arj, 1ato, 1atv, 1atw, 1aud, 1b36, 1bau, 1bgz, 1biv, 1bj2, 1bn0, 1bvj, 1byj, 1bz2, 1bz3, 1bzt, 1bzu, 1c0o, 1c2q, 1c4l, 1cq5, 1cql, 1cx5, 1d0t, 1d0u, 1d6k, 1drr, 1dz5, 1e4p, 1e95, 1ebq, 1ebr, 1ebs, 1efs, 1eht, 1ei2, 1ejz, 1eka, 1ekd, 1ekz, 1elh, 1esh, 1esy, 1etf, 1etg, 1exy, 1f5g, 1f5h, 1f5u, 1f6u, 1f6x, 1f6z, 1f78, 1f79, 1f7f, 1f7g, 1f7h, 1f7i, 1f84, 1f85, 1f9l, 1feq, 1fhk, 1fje, 1fl8, 1fmn, 1fnx, 1fqz, 1fyo, 1fyp, 1g3a, 1g70, 1guc, 1h0q, 1hg9, 1hji, 1hlx, 1hs1, 1hs2, 1hs3, 1hs4, 1hs8, 1hwq, 1i3x, 1i3y, 1i46, 1i4b, 1i4c, 1i9f, 1i9k, 1idv, 1ie1, 1ie2, 1ik1, 1ikd, 1j4y, 1jo7, 1jox, 1jp0, 1jtj, 1jtw, 1ju1, 1ju7, 1jur, 1jwc, 1jzc, 1k1g, 1k2g, 1k4a, 1k4b, 1k5i, 1k6g, 1k6h, 1k8s, 1kaj, 1kis, 1kka, 1kks, 1koc, 1kod, 1kos, 1kp7, 1kpd, 1kpy, 1kpz, 1l1c, 1l1w, 1lc6, 1ldz, 1lmv, 1lpw, 1luu, 1lux, 1lvj, 1m5l, 1m82, 1me1, 1mfj, 1mfk, 1mfy, 1mis, 1mnb, 1mnx, 1mt4, 1muv, 1mv1, 1mv2, 1mv6, 1mwg, 1my9, 1n53, 1n66, 1n8x, 1na2, 1nbk, 1nbr, 1nc0, 1nem, 1ntq, 1nts, 1ntt, 1nxr, 1nyb, 1nz1, 1o15, 1okf, 1oln, 1oo7, 1oq0, 1osw, 1ow9, 1p5m, 1p5n, 1p5o, 1p5p, 1pbl, 1pbm, 1pbr, 1pjy, 1q75, 1q8n, 1qc8, 1qd3, 1qes, 1qet, 1qfq, 1qwa, 1qwb, 1r2p, 1r3x, 1r4h, 1r7w, 1r7z, 1rau, 1raw, 1rfr, 1rgo, 1rht, 1rkj, 1rng, 1rnk, 1roq, 1rrd, 1rrr, 1s2f, 1s34, 1s9l, 1s9s, 1scl, 1slo, 1slp, 1sy4, 1syz, 1szy, 1t28, 1t2r, 1t4l, 1t4x, 1tbk, 1tfn, 1tjz, 1tlr, 1tob, 1tut, 1txs, 1u2a, 1u3k, 1u6p, 1ull, 1uts, 1uud, 1uui, 1uuu, 1vop, 1wks, 1wts, 1wtt, 1wwd, 1wwe, 1wwf, 1wwg, 1xhp, 1xsg, 1xsh, 1xst, 1xsu, 1xv0, 1xv6, 1xwp, 1xwu, 1yfv, 1yg3, 1yg4, 1ylg, 1ymo, 1yn1, 1yn2, 1ync, 1yne, 1yng, 1ysv, 1z2j, 1z30, 1z31, 1zbn, 1zc5, 1zif, 1zig, 1zih, 219d, 28sp, 28sr, 2a9l, 2a9x, 2ad9, 2adb, 2adc, 2adt, 2aht, 2ap0, 2ap5, 2au4, 2awq, 2b6g, 2b7g, 2bj2, 2c06, 2cd1, 2cd3, 2cd5, 2cd6, 2cjk, 2d17, 2d18, 2d19, 2d1a, 2d1b, 2dd1, 2dd2, 2dd3, 2err, 2es5, 2ese, 2euy, 2evy, 2f4x, 2f87, 2f88, 2fdt, 2fey, 2fy1, 2g1g, 2g1w, 2gbh, 2gio, 2gip, 2gm0, 2grw, 2gv3, 2gv4, 2gvo, 2h49, 2hem, 2hgh, 2hns, 2hua, 2i2y, 2i7e, 2i7z, 2ihx, 2irn, 2iro, 2ixy, 2ixz, 2jpp, 2jq7, 2jr4, 2jrg, 2jrq, 2jse, 2jsg, 2jtp, 2juk, 2jwv, 2jxq, 2jxs, 2jxv, 2jyf, 2jyh, 2jyj, 2jym, 2k3z, 2k41, 2k4c, 2k5z, 2k65, 2k66, 2k7e, 2k95, 2k96, 2kbp, 2kd4, 2kd8, 2kdq, 2ke6, 2kez, 2kf0, 2kfy, 2kg0, 2kg1, 2kgp, 2kh9, 2khy, 2km8, 2kmj, 2koc, 2kp3, 2kp4, 2kpc, 2kpd, 2kpv, 2krl, 2krp, 2krq, 2krv, 2krw, 2kry, 2krz, 2ktz, 2ku0, 2kur, 2kuu, 2kuv, 2kuw, 2kvn, 2kwg, 2kx5, 2kx8, 2kxm, 2kxn, 2kxz, 2ky0, 2ky1, 2ky2, 2kyd, 2kye, 2kzl, 2l1f, 2l1v, 2l2j, 2l2k, 2l3c, 2l3e, 2l3j, 2l41, 2l5d, 2l5z, 2l6i, 2l8c, 2l8f, 2l8h, 2l8u, 2l8w, 2l94, 2l9e, 2la5, 2la9, 2lac, 2lar, 2lb4, 2lbj, 2lbk, 2lbl, 2lbq, 2lbr, 2lbs, 2lc8, 2ldl, 2ldt, 2ldz, 2leb, 2lec, 2lhp, 2li4, 2li8, 2ljj, 2lk3, 2lkr, 2lp9, 2lpa, 2lps, 2lpt, 2lqz, 2lu0, 2lub, 2lun, 2lup, 2lv0, 2lvy, 2lwk, 2lx1, 2m12, 2m18, 2m1o, 2m1v, 2m21, 2m22, 2m23, 2m24, 2m39, 2m4q, 2m4w, 2m57, 2m58, 2m5u, 2m8d, 2m8k, 2mb0, 2meq, 2mer, 2mf0, 2mf1, 2mfc, 2mfd, 2mfe, 2mff, 2mfg, 2mfh, 2mgz, 2mhi, 2mi0, 2mis, 2miy, 2mjh, 2mki, 2mkk, 2mkn, 2mn0, 2mnc, 2mqt, 2mqv, 2ms0, 2ms1, 2ms5, 2mtj, 2mtk, 2mtv, 2mvs, 2mxj, 2mxk, 2mxl, 2mxy, 2mz1, 2n1q, 2n2o, 2n2p, 2n3q, 2n3r, 2n4j, 2o32, 2o33, 2o81, 2o83, 2oj7, 2oj8, 2oom, 2p89, 2pcv, 2pcw, 2pn9, 2qh2, 2qh3, 2qh4, 2rlu, 2rn1, 2ro2, 2rp0, 2rp1, 2rpk, 2rpt, 2rqc, 2rqj, 2rra, 2rrc, 2rs2, 2rsk, 2ru3, 2ru7, 2tob, 2tpk, 2u2a, 2xc7, 2xeb, 2xfm, 2y95, 2yh1, 3php, 484d, 4a4r, 4a4s, 4a4t, 4a4u, 4b8t, 4bs2, 4by9, 4cio, 5a17, 5a18, 8drh, 8psh