

Supporting Information: Molecular Origins of Exciton Condensation in Van der Waals Heterostructure Bilayers

Lillian I. Payne Torres, Anna O. Schouten, and David A. Mazziotti*

*Department of Chemistry and The James Franck Institute, The University of Chicago,
Chicago, IL 60637*

E-mail: damazz@uchicago.edu

Table 1: 2×2 MoSe₂-WSe₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.91869	7.10596	Se	0.00000	1.91869	-1.68443
Mo	-1.66163	4.79673	7.10596	Se	3.32327	1.91869	-1.68443
Mo	3.32327	1.91869	7.10596	Se	-1.66163	4.79673	-1.68443
Mo	1.66163	4.79673	7.10596	Se	1.66163	4.79673	-1.68443
W	1.66163	0.95935	0.00000	Se	4.98491	-0.95935	-1.68443
W	0.00000	3.83738	0.00000	Se	4.98491	-0.95935	1.68443
W	4.98491	0.95935	0.00000	Se	6.64654	1.91869	-1.68443
W	3.32327	3.83738	0.00000	Se	6.64654	1.91869	1.68443
Se	0.00000	1.91869	1.68443	Se	4.98491	4.79673	-1.68443
Se	-1.66163	4.79673	1.68443	Se	4.98491	4.79673	1.68443
Se	3.32327	1.91869	1.68443	H	-3.07009	4.52731	1.21139
Se	1.66163	4.79673	1.68443	H	4.35981	-0.21659	4.71819
Se	1.66163	0.95935	5.42989	H	5.45321	-0.39541	8.30690
Se	0.00000	3.83738	5.42989	H	-1.03654	-0.21659	4.71819
Se	4.98491	0.95935	5.42989	H	-2.12994	-0.39541	8.30690
Se	3.32327	3.83738	5.42989	H	-4.02911	4.96670	4.71819
Se	1.66163	0.95935	8.78170	H	-4.73068	4.10920	8.30690
Se	0.00000	3.83738	8.78170	H	-2.99258	6.76204	4.71819
Se	4.98491	0.95935	8.78170	H	-2.60074	7.79836	8.30690
Se	3.32327	3.83738	8.78170	H	0.33069	6.76204	4.71819
Se	-1.66163	0.95935	5.42989	H	0.72253	7.79836	8.30690
Se	-1.66163	0.95935	8.78170	H	2.99204	-1.00327	-2.39731
Se	-3.32327	3.83738	5.42989	H	2.59918	-2.04440	1.21139
Se	-3.32327	3.83738	8.78170	H	-2.36488	3.66653	-2.39731
Se	-1.66163	6.71542	5.42989	H	6.31531	-1.00327	-2.39731
Se	-1.66163	6.71542	8.78170	H	5.92245	-2.04440	1.21139
Se	1.66163	6.71542	5.42989	H	7.34978	0.78849	-2.39731
Se	1.66163	6.71542	8.78170	H	8.05500	1.64928	1.21139
Se	1.66163	-0.95935	-1.68443	H	5.68815	3.66653	-2.39731
Se	1.66163	-0.95935	1.68443	H	6.39336	4.52731	1.21139

Table 2: 3×3 MoSe₂-WSe₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.91869	54.32685	Se	0.00000	9.59346	52.65111
Mo	-1.66163	4.79673	54.32685	Se	0.00000	9.59346	56.00292
Mo	-3.32327	7.67476	54.32685	Se	3.32327	9.59346	52.65111
Mo	3.32327	1.91869	54.32685	Se	3.32327	9.59346	56.00292
Mo	1.66163	4.79673	54.32685	Se	1.66163	-0.95935	59.74838
Mo	0.00000	7.67476	54.32685	Se	1.66163	-0.95935	63.11724
Mo	6.64654	1.91869	54.32685	Se	0.00000	1.91869	63.11724
Mo	4.98491	4.79673	54.32685	Se	3.32327	1.91869	63.11724
Mo	3.32327	7.67476	54.32685	Se	-1.66163	4.79673	63.11724
W	1.66163	0.95935	61.43281	Se	1.66163	4.79673	63.11724
W	0.00000	3.83738	61.43281	Se	-3.32327	7.67476	63.11724
W	-1.66163	6.71542	61.43281	Se	0.00000	7.67476	63.11724
W	4.98491	0.95935	61.43281	Se	4.98491	-0.95935	59.74838
W	3.32327	3.83738	61.43281	Se	4.98491	-0.95935	63.11724
W	1.66163	6.71542	61.43281	Se	6.64654	1.91869	63.11724
W	8.30818	0.95935	61.43281	Se	4.98491	4.79673	63.11724
W	6.64654	3.83738	61.43281	Se	3.32327	7.67476	63.11724
W	4.98491	6.71542	61.43281	Se	8.30818	-0.95935	59.74838
Se	0.00000	1.91869	59.74838	Se	8.30818	-0.95935	63.11724
Se	-1.66163	4.79673	59.74838	Se	9.96981	1.91869	59.74838
Se	-3.32327	7.67476	59.74838	Se	9.96981	1.91869	63.11724
Se	3.32327	1.91869	59.74838	Se	8.30818	4.79673	59.74838
Se	1.66163	4.79673	59.74838	Se	8.30818	4.79673	63.11724
Se	0.00000	7.67476	59.74838	Se	6.64654	7.67476	59.74838
Se	6.64654	1.91869	59.74838	Se	6.64654	7.67476	63.11724
Se	4.98491	4.79673	59.74838	H	-4.02651	6.54457	59.03550
Se	3.32327	7.67476	59.74838	H	8.77658	-0.39540	55.52819
Se	1.66163	0.95935	56.00292	H	7.68302	-0.21643	51.93918
Se	0.00000	3.83738	56.00292	H	-1.17892	1.23804	51.24775
Se	-1.66163	6.71542	56.00292	H	-3.06908	1.23107	55.52819
Se	4.98491	0.95935	56.00292	H	-2.84056	4.11608	51.24775
Se	3.32327	3.83738	56.00292	H	-4.73072	4.10910	55.52819
Se	1.66163	6.71542	56.00292	H	-4.50219	6.99411	51.24775
Se	8.30818	0.95935	56.00292	H	-5.45331	5.36067	55.52819
Se	6.64654	3.83738	56.00292	H	-1.99245	9.63994	51.93918
Se	4.98491	6.71542	56.00292	H	-2.38423	10.67648	55.52819
Se	1.66163	0.95935	52.65111	H	0.00000	9.03607	51.24775
Se	0.00000	3.83738	52.65111	H	0.93904	10.67648	55.52819
Se	-1.66163	6.71542	52.65111	H	3.32327	9.03607	51.24775
Se	4.98491	0.95935	52.65111	H	2.38423	10.67648	55.52819
Se	3.32327	3.83738	52.65111	H	1.66163	-0.39836	58.34646
Se	1.66163	6.71542	52.65111	H	2.59918	-2.04440	62.64420
Se	8.30818	0.95935	52.65111	H	-4.73173	7.40535	62.64420
Se	6.64654	3.83738	52.65111	H	4.98491	-0.39836	58.34646
Se	4.98491	6.71542	52.65111	H	5.92245	-2.04440	62.64420
Se	-1.66163	0.95935	52.65111	H	9.63858	-1.00327	59.03550
Se	-1.66163	0.95935	56.00292	H	9.24572	-2.04440	62.64420
Se	-3.32327	3.83738	52.65111	H	10.67305	0.78849	59.03550
Se	-3.32327	3.83738	56.00292	H	11.37827	1.64928	62.64420
Se	-4.98491	6.71542	52.65111	H	7.82235	4.51623	58.34646
Se	-4.98491	6.71542	56.00292	H	7.82235	4.51623	64.51916
Se	-3.32327	9.59346	52.65111	H	6.16071	7.39427	58.34646
Se	-3.32327	9.59346	56.00292	H	7.11745	9.02923	62.64420

Table 3: 2×2 MoS₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.59000	0.91799	3.12500	S	-0.00020	3.65012	11.44518
W	0.00000	3.67195	3.12500	S	4.74130	0.91262	11.44518
W	4.77000	0.91799	3.12500	S	-0.00020	3.65012	8.43288
W	3.18000	3.67195	3.12500	Mo	-0.00020	1.82512	9.93898
S	0.00000	1.83597	4.68750	S	1.58030	0.91262	11.44518
S	-1.59000	4.58993	4.68750	S	-3.16120	3.65012	8.43288
S	3.18000	1.83597	4.68750	S	-3.16120	3.65012	11.44518
S	1.59000	4.58993	4.68750	S	1.58030	0.91262	8.43288
S	0.00000	1.83597	1.56250	S	-1.58070	0.91262	11.44518
S	-1.59000	4.58993	1.56250	S	-1.58070	0.91262	8.43288
S	3.18000	1.83597	1.56250	H	-2.85281	4.33418	4.25218
S	1.59000	4.58993	1.56250	H	-2.23721	3.57691	0.92648
S	1.59000	-0.91799	1.56250	H	0.38910	-0.97198	0.92648
S	1.59000	-0.91799	4.68750	H	0.73710	-1.88374	4.25218
S	4.77000	-0.91799	1.56250	H	3.56910	-0.97198	0.92648
S	4.77000	-0.91799	4.68750	H	3.91710	-1.88374	4.25218
S	6.36000	1.83597	1.56250	H	5.93929	1.59307	0.29222
S	6.36000	1.83597	4.68750	H	6.76992	3.05747	4.25219
S	4.77000	4.58993	1.56250	H	4.34929	4.34703	0.29222
S	4.77000	4.58993	4.68750	H	6.03281	4.33418	4.25218
S	1.58030	6.38762	11.44518	H	0.71885	7.34179	11.00125
S	1.58030	6.38762	8.43288	H	1.58030	5.92112	7.15539
Mo	1.58030	4.56262	9.93898	H	-0.71925	7.34179	11.00125
S	3.16080	3.65012	11.44518	H	-0.37719	6.45572	7.80318
S	-1.58070	6.38762	11.44518	H	4.19852	-0.16370	7.80318
S	-1.58070	6.38762	8.43288	H	5.13691	-0.31050	11.00124
S	3.16080	3.65012	8.43288	H	-2.75720	3.88337	7.15539
Mo	3.16080	1.82512	9.93898	H	-1.17670	1.14587	7.15539
Mo	-1.58070	4.56262	9.93898	H	-3.55681	2.42700	11.00124
S	4.74130	0.91262	8.43288	H	-2.83775	1.18157	11.00124

Table 4: 3×3 MoS₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.59000	0.91799	3.12500	S	1.56662	6.39551	11.44493
W	0.00000	3.67195	3.12500	Mo	-3.17488	7.30801	9.93873
W	-1.59000	6.42591	3.12500	Mo	1.56662	4.57051	9.93873
W	4.77000	0.91799	3.12500	Mo	6.30812	1.83301	9.93873
W	3.18000	3.67195	3.12500	S	3.14712	3.65801	8.43263
W	1.59000	6.42591	3.12500	S	-1.59438	6.39551	11.44493
W	7.95000	0.91799	3.12500	S	-1.59438	6.39551	8.43263
W	6.36000	3.67195	3.12500	S	7.88862	0.92051	8.43263
W	4.77000	6.42591	3.12500	S	7.88862	0.92051	11.44493
S	0.00000	1.83597	4.68750	S	3.14712	3.65801	11.44493
S	-1.59000	4.58993	4.68750	Mo	3.14712	1.83301	9.93873
S	-3.18000	7.34390	4.68750	Mo	-1.59438	4.57051	9.93873
S	3.18000	1.83597	4.68750	S	-4.75538	6.39551	11.44493
S	1.59000	4.58993	4.68750	S	-0.01388	3.65801	11.44493
S	0.00000	7.34390	4.68750	S	-4.75538	6.39551	8.43263
S	6.36000	1.83597	4.68750	S	4.72762	0.92051	11.44493
S	4.77000	4.58993	4.68750	S	-0.01388	3.65801	8.43263
S	3.18000	7.34390	4.68750	S	4.72762	0.92051	8.43263
S	0.00000	1.83597	1.56250	Mo	-0.01388	1.83301	9.93873
S	-1.59000	4.58993	1.56250	S	-3.17488	3.65801	11.44493
S	-3.18000	7.34390	1.56250	S	-3.17488	3.65801	8.43263
S	3.18000	1.83597	1.56250	S	1.56662	0.92051	8.43263
S	1.59000	4.58993	1.56250	S	1.56662	0.92051	11.44493
S	0.00000	7.34390	1.56250	S	-1.59438	0.92051	11.44493
S	6.36000	1.83597	1.56250	S	-1.59438	0.92051	8.43263
S	4.77000	4.58993	1.56250	H	-4.44281	7.08815	4.25218
S	3.18000	7.34390	1.56250	H	-3.82721	6.33089	0.92648
S	1.59000	-0.91799	1.56250	H	0.38910	-0.97198	0.92648
S	1.59000	-0.91799	4.68750	H	0.73710	-1.88374	4.25218
S	4.77000	-0.91799	1.56250	H	3.56910	-0.97198	0.92648
S	4.77000	-0.91799	4.68750	H	3.91710	-1.88374	4.25218
S	7.95000	-0.91799	1.56250	H	6.74910	-0.97198	0.92648
S	7.95000	-0.91799	4.68750	H	7.09710	-1.88374	4.25218
S	9.54000	1.83597	1.56250	H	9.11929	1.59307	0.29222
S	9.54000	1.83597	4.68750	H	10.80281	1.58022	4.25218
S	7.95000	4.58993	1.56250	H	7.52929	4.34703	0.29222
S	7.95000	4.58993	4.68750	H	8.35992	5.81143	4.25219
S	6.36000	7.34390	1.56250	H	5.93929	7.10100	0.29222
S	6.36000	7.34390	4.68750	H	7.62281	7.08815	4.25218
S	3.14712	9.13301	11.44493	H	4.00857	10.08718	11.00100
S	3.14712	9.13301	8.43263	H	3.14712	8.66651	7.15514
Mo	3.14712	7.30801	9.93873	H	-0.87533	10.08718	11.00100
S	4.72762	6.39551	8.43263	H	-1.21739	9.20111	7.80293
S	4.72762	6.39551	11.44493	H	-4.37839	9.20111	7.80293
S	-0.01388	9.13301	11.44493	H	-4.03633	10.08718	11.00100
S	-0.01388	9.13301	8.43263	H	7.34584	-0.15581	7.80293
Mo	-0.01388	7.30801	9.93873	H	8.28423	-0.30261	11.00099
Mo	4.72762	4.57051	9.93873	H	-6.01243	6.66446	11.00099
S	6.30812	3.65801	8.43263	H	-5.41611	7.40373	7.80293
S	-3.17488	9.13301	8.43263	H	-3.57049	2.43489	11.00099
S	-3.17488	9.13301	11.44493	H	-2.77088	3.89126	7.15514
S	6.30812	3.65801	11.44493	H	-2.85143	1.18946	11.00099
S	1.56662	6.39551	8.43263	H	-1.19038	1.15376	7.15514

Table 5: 2×2 MoSe₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.89833	3.23000	S	-1.47533	4.66725	11.76582
Mo	-1.64400	4.74582	3.23000	S	-1.47533	4.66725	8.64082
Mo	3.28800	1.89833	3.23000	S	3.29467	1.91335	11.76582
Mo	1.64400	4.74582	3.23000	W	3.29467	3.74925	10.20332
Se	1.64400	0.94916	4.89668	S	6.47467	1.91335	11.76582
Se	0.00000	3.79665	4.89668	S	6.47467	1.91335	8.64082
Se	4.93200	0.94916	4.89668	S	1.70467	4.66725	8.64082
Se	3.28800	3.79665	4.89668	S	1.70467	4.66725	11.76582
Se	1.64400	0.94916	1.56332	S	4.88467	4.66725	8.64082
Se	0.00000	3.79665	1.56332	S	4.88467	4.66725	11.76582
Se	4.93200	0.94916	1.56332	H	5.40295	-0.40530	4.42367
Se	3.28800	3.79665	1.56332	H	4.30481	-0.22493	0.85042
Se	-1.64400	0.94916	1.56332	H	-1.15812	1.22968	0.16142
Se	-1.64400	0.94916	4.89668	H	-2.11495	-0.40530	4.42367
Se	-3.28800	3.79665	1.56332	H	-2.80212	4.07718	0.16142
Se	-3.28800	3.79665	4.89668	H	-3.75895	2.44219	4.42367
Se	-1.64400	6.64415	1.56332	H	-0.31361	6.68803	0.85042
Se	-1.64400	6.64415	4.89668	H	-0.70648	7.72923	4.42367
Se	1.64400	6.64415	1.56332	H	1.64400	6.08311	0.16142
Se	1.64400	6.64415	4.89668	H	0.70648	7.72923	4.42367
S	1.70467	-0.84065	8.64082	H	0.50377	-0.89465	8.00480
S	1.70467	-0.84065	11.76582	H	0.85178	-1.80640	11.33049
W	1.70467	0.99535	10.20332	H	3.68377	-0.89465	8.00480
S	0.11467	1.91335	11.76582	H	4.03178	-1.80640	11.33049
S	0.11467	1.91335	8.64082	H	-1.88525	5.88875	11.33049
S	4.88467	-0.84065	8.64082	H	-0.92162	5.73424	8.00478
S	4.88467	-0.84065	11.76582	H	7.73748	1.65759	11.33051
W	0.11467	3.74925	10.20332	H	6.05397	1.67045	7.37054
W	4.88467	0.99535	10.20332	H	4.33096	5.73424	8.00478
S	3.29467	1.91335	8.64082	H	5.29459	5.88875	11.33049

Table 6: 3×3 MoSe₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.89833	4.07000	S	4.79877	4.57329	9.48134
Mo	-1.64400	4.74582	4.07000	W	-1.56123	6.40929	11.04384
Mo	-3.28800	7.59331	4.07000	W	3.20877	3.65529	11.04384
Mo	3.28800	1.89833	4.07000	W	7.97877	0.90139	11.04384
Mo	1.64400	4.74582	4.07000	S	6.38877	1.81939	9.48134
Mo	0.00000	7.59331	4.07000	S	-3.15123	7.32729	12.60634
Mo	6.57600	1.89833	4.07000	S	6.38877	1.81939	12.60634
Mo	4.93200	4.74582	4.07000	S	-3.15123	7.32729	9.48134
Mo	3.28800	7.59331	4.07000	S	1.61877	4.57329	9.48134
Se	1.64400	0.94916	5.73668	S	1.61877	4.57329	12.60634
Se	0.00000	3.79665	5.73668	W	4.79877	0.90139	11.04384
Se	-1.64400	6.64415	5.73668	W	0.02877	3.65529	11.04384
Se	4.93200	0.94916	5.73668	S	7.97877	-0.93461	12.60634
Se	3.28800	3.79665	5.73668	S	-1.56123	4.57329	9.48134
Se	1.64400	6.64415	5.73668	S	3.20877	1.81939	12.60634
Se	8.22000	0.94916	5.73668	S	-1.56123	4.57329	12.60634
Se	6.57600	3.79665	5.73668	S	3.20877	1.81939	9.48134
Se	4.93200	6.64415	5.73668	S	7.97877	-0.93461	9.48134
Se	1.64400	0.94916	2.40332	W	1.61877	0.90139	11.04384
Se	0.00000	3.79665	2.40332	S	0.02877	1.81939	12.60634
Se	-1.64400	6.64415	2.40332	S	0.02877	1.81939	9.48134
Se	4.93200	0.94916	2.40332	S	4.79877	-0.93461	12.60634
Se	3.28800	3.79665	2.40332	S	4.79877	-0.93461	9.48134
Se	1.64400	6.64415	2.40332	S	1.61877	-0.93461	9.48134
Se	8.22000	0.94916	2.40332	S	1.61877	-0.93461	12.60634
Se	6.57600	3.79665	2.40332	H	9.62847	1.21854	5.26367
Se	4.93200	6.64415	2.40332	H	8.92320	2.07937	1.69042
Se	-1.64400	0.94916	2.40332	H	-2.34720	2.07937	1.69042
Se	-1.64400	0.94916	5.73668	H	-3.05247	1.21854	5.26367
Se	-3.28800	3.79665	2.40332	H	-3.99120	4.92686	1.69042
Se	-3.28800	3.79665	5.73668	H	-4.69647	4.06603	5.26367
Se	-4.93200	6.64415	2.40332	H	-5.63520	7.77436	1.69042
Se	-4.93200	6.64415	5.73668	H	-6.34047	6.91353	5.26367
Se	-3.28800	9.49164	2.40332	H	-4.61839	9.53552	1.69042
Se	-3.28800	9.49164	5.73668	H	-4.22552	10.57672	5.26367
Se	0.00000	9.49164	2.40332	H	1.33039	9.53552	1.69042
Se	0.00000	9.49164	5.73668	H	0.93752	10.57672	5.26367
Se	3.28800	9.49164	2.40332	H	4.61839	9.53552	1.69042
Se	3.28800	9.49164	5.73668	H	4.22552	10.57672	5.26367
S	6.38877	7.32729	12.60634	H	6.79868	8.54880	12.17102
S	6.38877	7.32729	9.48134	H	5.96807	7.08439	8.21106
W	4.79877	6.40929	11.04384	H	8.62598	3.56028	8.84532
S	3.20877	7.32729	9.48134	H	9.24158	4.31753	12.17103
S	3.20877	7.32729	12.60634	H	10.83158	1.56363	12.17103
S	7.97877	4.57329	9.48134	H	10.21598	0.80638	8.84532
S	7.97877	4.57329	12.60634	H	-3.56114	8.54880	12.17102
W	1.61877	6.40929	11.04384	H	-2.73053	7.08439	8.21106
W	6.38877	3.65529	11.04384	H	8.83166	-1.90036	12.17101
S	9.56877	1.81939	12.60634	H	9.17967	-0.98861	8.84532
S	9.56877	1.81939	9.48134	H	3.94588	-1.90036	12.17101
S	0.02877	7.32729	12.60634	H	4.79877	-0.44883	8.21106
S	0.02877	7.32729	9.48134	H	1.61877	-0.44883	8.21106
S	4.79877	4.57329	12.60634	H	2.47166	-1.90036	12.17101

Table 7: 2×2 MoSe₂-MoSe₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.89833	3.23000	Se	1.64400	6.64415	1.56332
Mo	-1.64400	4.74582	3.23000	Se	1.64400	6.64415	4.89668
Mo	3.28800	1.89833	3.23000	Se	1.64400	-0.94916	8.02332
Mo	1.64400	4.74582	3.23000	Se	1.64400	-0.94916	11.35668
Mo	1.64400	0.94916	9.69000	Se	4.93200	-0.94916	8.02332
Mo	0.00000	3.79665	9.69000	Se	4.93200	-0.94916	11.35668
Mo	4.93200	0.94916	9.69000	Se	6.57600	1.89833	8.02332
Mo	3.28800	3.79665	9.69000	Se	6.57600	1.89833	11.35668
Se	0.00000	1.89833	8.02332	Se	4.93200	4.74582	8.02332
Se	-1.64400	4.74582	8.02332	Se	4.93200	4.74582	11.35668
Se	3.28800	1.89833	8.02332	H	-1.15812	4.46530	6.62142
Se	1.64400	4.74582	8.02332	H	5.40295	-0.40530	4.42367
Se	1.64400	0.94916	4.89668	H	4.30481	-0.22493	0.85042
Se	0.00000	3.79665	4.89668	H	-3.05247	4.47644	10.88367
Se	4.93200	0.94916	4.89668	H	-1.01681	-0.22493	0.85042
Se	3.28800	3.79665	4.89668	H	-2.11495	-0.40530	4.42367
Se	1.64400	0.94916	1.56332	H	-3.99120	4.92687	0.85042
Se	0.00000	3.79665	1.56332	H	-4.69647	4.06603	4.42367
Se	4.93200	0.94916	1.56332	H	-2.97439	6.68803	0.85042
Se	3.28800	3.79665	1.56332	H	-2.58152	7.72923	4.42367
Se	0.00000	1.89833	11.35668	H	0.31361	6.68803	0.85042
Se	-1.64400	4.74582	11.35668	H	0.70648	7.72923	4.42367
Se	3.28800	1.89833	11.35668	H	1.64400	-0.38812	6.62142
Se	1.64400	4.74582	11.35668	H	0.70648	-2.03425	10.88367
Se	-1.64400	0.94916	1.56332	H	4.93200	-0.38812	6.62142
Se	-1.64400	0.94916	4.89668	H	3.99448	-2.03425	10.88367
Se	-3.28800	3.79665	1.56332	H	5.94881	3.07242	7.31042
Se	-3.28800	3.79665	4.89668	H	7.04695	3.25279	10.88367
Se	-1.64400	6.64415	1.56332	H	4.44612	4.46530	6.62142
Se	-1.64400	6.64415	4.89668	H	6.34047	4.47644	10.88367

Table 8: 3×3 MoSe₂-MoSe₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.89833	29.07000	Se	3.28800	7.59331	37.19668
Mo	-1.64400	4.74582	29.07000	Se	-1.64400	0.94916	27.40332
Mo	-3.28800	7.59331	29.07000	Se	-1.64400	0.94916	30.73668
Mo	3.28800	1.89833	29.07000	Se	-3.28800	3.79665	27.40332
Mo	1.64400	4.74582	29.07000	Se	-3.28800	3.79665	30.73668
Mo	0.00000	7.59331	29.07000	Se	-4.93200	6.64415	27.40332
Mo	6.57600	1.89833	29.07000	Se	-4.93200	6.64415	30.73668
Mo	4.93200	4.74582	29.07000	Se	-3.28800	9.49164	27.40332
Mo	3.28800	7.59331	29.07000	Se	-3.28800	9.49164	30.73668
Mo	1.64400	0.94916	35.53000	Se	0.00000	9.49164	27.40332
Mo	0.00000	3.79665	35.53000	Se	0.00000	9.49164	30.73668
Mo	-1.64400	6.64415	35.53000	Se	3.28800	9.49164	27.40332
Mo	4.93200	0.94916	35.53000	Se	3.28800	9.49164	30.73668
Mo	3.28800	3.79665	35.53000	Se	1.64400	-0.94916	33.86332
Mo	1.64400	6.64415	35.53000	Se	1.64400	-0.94916	37.19668
Mo	8.22000	0.94916	35.53000	Se	4.93200	-0.94916	33.86332
Mo	6.57600	3.79665	35.53000	Se	4.93200	-0.94916	37.19668
Mo	4.93200	6.64415	35.53000	Se	8.22000	-0.94916	33.86332
Se	0.00000	1.89833	33.86332	Se	8.22000	-0.94916	37.19668
Se	-1.64400	4.74582	33.86332	Se	9.86400	1.89833	33.86332
Se	-3.28800	7.59331	33.86332	Se	9.86400	1.89833	37.19668
Se	3.28800	1.89833	33.86332	Se	8.22000	4.74582	33.86332
Se	1.64400	4.74582	33.86332	Se	8.22000	4.74582	37.19668
Se	0.00000	7.59331	33.86332	Se	6.57600	7.59331	33.86332
Se	6.57600	1.89833	33.86332	Se	6.57600	7.59331	37.19668
Se	4.93200	4.74582	33.86332	H	-2.80212	7.31279	32.46142
Se	3.28800	7.59331	33.86332	H	9.62847	1.21854	30.26367
Se	1.64400	0.94916	30.73668	H	8.92320	2.07938	26.69042
Se	0.00000	3.79665	30.73668	H	-3.75895	8.94777	36.72367
Se	-1.64400	6.64415	30.73668	H	-1.01681	-0.22493	26.69042
Se	4.93200	0.94916	30.73668	H	-2.11495	-0.40530	30.26367
Se	3.28800	3.79665	30.73668	H	-3.99120	4.92687	26.69042
Se	1.64400	6.64415	30.73668	H	-4.69647	4.06603	30.26367
Se	8.22000	0.94916	30.73668	H	-5.63520	7.77436	26.69042
Se	6.57600	3.79665	30.73668	H	-6.34047	6.91352	30.26367
Se	4.93200	6.64415	30.73668	H	-4.61839	9.53552	26.69042
Se	1.64400	0.94916	27.40332	H	-4.22552	10.57672	30.26367
Se	0.00000	3.79665	27.40332	H	-1.33039	9.53552	26.69042
Se	-1.64400	6.64415	27.40332	H	-0.93752	10.57672	30.26367
Se	4.93200	0.94916	27.40332	H	4.61839	9.53552	26.69042
Se	3.28800	3.79665	27.40332	H	4.22552	10.57672	30.26367
Se	1.64400	6.64415	27.40332	H	0.31361	-0.99305	33.15042
Se	8.22000	0.94916	27.40332	H	0.70648	-2.03425	36.72367
Se	6.57600	3.79665	27.40332	H	3.60161	-0.99305	33.15042
Se	4.93200	6.64415	27.40332	H	3.99448	-2.03425	36.72367
Se	0.00000	1.89833	37.19668	H	6.88961	-0.99305	33.15042
Se	-1.64400	4.74582	37.19668	H	7.28248	-2.03425	36.72367
Se	-3.28800	7.59331	37.19668	H	9.37812	1.61781	32.46142
Se	3.28800	1.89833	37.19668	H	10.33495	3.25279	36.72367
Se	1.64400	4.74582	37.19668	H	8.92320	3.61561	33.15042
Se	0.00000	7.59331	37.19668	H	9.62847	4.47644	36.72367
Se	6.57600	1.89833	37.19668	H	6.09012	7.31279	32.46142
Se	4.93200	4.74582	37.19668	H	7.98447	7.32393	36.72367

Table 9: 2×2 WSe₂-WSe₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.64250	0.94830	3.24600	Se	4.92750	4.74149	1.55808
W	0.00000	3.79319	3.24600	Se	4.92750	4.74149	4.93392
W	4.92750	0.94830	3.24600	Se	-1.64250	0.94830	8.05008
W	3.28500	3.79319	3.24600	Se	-1.64250	0.94830	11.42592
W	-0.00000	1.89660	9.73800	Se	-3.28500	3.79319	8.05008
W	-1.64250	4.74149	9.73800	Se	-3.28500	3.79319	11.42592
W	3.28500	1.89660	9.73800	Se	-1.64250	6.63809	8.05008
W	1.64250	4.74149	9.73800	Se	-1.64250	6.63809	11.42592
Se	0.00000	1.89660	1.55808	Se	1.64250	6.63809	8.05008
Se	-1.64250	4.74149	1.55808	Se	1.64250	6.63809	11.42592
Se	3.28500	1.89660	1.55808	H	-1.14846	4.45625	0.15999
Se	1.64250	4.74149	1.55808	H	6.33872	1.21141	10.95759
Se	1.64250	0.94830	11.42592	H	5.62395	2.08092	7.33437
Se	0.00000	3.79319	11.42592	H	-3.05372	4.47837	4.46559
Se	4.92750	0.94830	11.42592	H	1.64250	-0.37783	0.15999
Se	3.28500	3.79319	11.42592	H	2.57597	-2.03889	4.46559
Se	1.64250	0.94830	8.05008	H	3.59840	-0.98513	0.84237
Se	0.00000	3.79319	8.05008	H	3.99403	-2.03889	4.46559
Se	4.92750	0.94830	8.05008	H	6.07596	1.61136	0.15999
Se	3.28500	3.79319	8.05008	H	7.04775	3.25030	4.46559
Se	0.00000	1.89660	4.93392	H	4.43346	4.45625	0.15999
Se	-1.64250	4.74149	4.93392	H	6.33872	4.47837	4.46559
Se	3.28500	1.89660	4.93392	H	-1.00985	-0.22115	7.33437
Se	1.64250	4.74149	4.93392	H	-2.12025	-0.40541	10.95759
Se	1.64250	-0.94830	1.55808	H	-2.79096	4.07843	6.65199
Se	1.64250	-0.94830	4.93392	H	-3.76275	2.43948	10.95759
Se	4.92750	-0.94830	1.55808	H	-0.31340	6.67492	7.33437
Se	4.92750	-0.94830	4.93392	H	-0.70903	7.72868	10.95759
Se	6.57000	1.89660	1.55808	H	2.97160	6.67492	7.33437
Se	6.57000	1.89660	4.93392	H	2.57597	7.72868	10.95759

Table 10: 3×3 WSe₂-WSe₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.64250	0.94830	3.24600	Se	3.28500	7.58638	4.93392
W	0.00000	3.79319	3.24600	Se	1.64250	-0.94830	1.55808
W	-1.64250	6.63809	3.24600	Se	1.64250	-0.94830	4.93392
W	4.92750	0.94830	3.24600	Se	4.92750	-0.94830	1.55808
W	3.28500	3.79319	3.24600	Se	4.92750	-0.94830	4.93392
W	1.64250	6.63809	3.24600	Se	8.21250	-0.94830	1.55808
W	8.21250	0.94830	3.24600	Se	8.21250	-0.94830	4.93392
W	6.57000	3.79319	3.24600	Se	9.85500	1.89660	1.55808
W	4.92750	6.63809	3.24600	Se	9.85500	1.89660	4.93392
W	-0.00000	1.89660	9.73800	Se	8.21250	4.74149	1.55808
W	-1.64250	4.74149	9.73800	Se	8.21250	4.74149	4.93392
W	-3.28500	7.58638	9.73800	Se	6.57000	7.58638	1.55808
W	3.28500	1.89660	9.73800	Se	6.57000	7.58638	4.93392
W	1.64250	4.74149	9.73800	Se	-1.64250	0.94830	8.05008
W	-0.00000	7.58638	9.73800	Se	-1.64250	0.94830	11.42592
W	6.57000	1.89660	9.73800	Se	-3.28500	3.79319	8.05008
W	4.92750	4.74149	9.73800	Se	-3.28500	3.79319	11.42592
W	3.28500	7.58638	9.73800	Se	-4.92750	6.63809	8.05008
Se	0.00000	1.89660	1.55808	Se	-4.92750	6.63809	11.42592
Se	-1.64250	4.74149	1.55808	Se	-3.28500	9.48298	8.05008
Se	-3.28500	7.58638	1.55808	Se	-3.28500	9.48298	11.42592
Se	3.28500	1.89660	1.55808	Se	0.00000	9.48298	8.05008
Se	1.64250	4.74149	1.55808	Se	0.00000	9.48298	11.42592
Se	0.00000	7.58638	1.55808	Se	3.28500	9.48298	8.05008
Se	6.57000	1.89660	1.55808	Se	3.28500	9.48298	11.42592
Se	4.92750	4.74149	1.55808	H	-2.65235	8.75583	0.84237
Se	3.28500	7.58638	1.55808	H	8.69025	-0.40541	10.95759
Se	1.64250	0.94830	11.42592	H	7.71846	1.23353	6.65199
Se	0.00000	3.79319	11.42592	H	-3.76275	8.94009	4.46559
Se	-1.64250	6.63809	11.42592	H	1.64250	-0.37783	0.15999
Se	4.92750	0.94830	11.42592	H	2.57597	-2.03889	4.46559
Se	3.28500	3.79319	11.42592	H	4.92750	-0.37783	0.15999
Se	1.64250	6.63809	11.42592	H	3.99403	-2.03889	4.46559
Se	8.21250	0.94830	11.42592	H	6.88340	-0.98513	0.84237
Se	6.57000	3.79319	11.42592	H	7.27903	-2.03889	4.46559
Se	4.92750	6.63809	11.42592	H	9.36096	1.61136	0.15999
Se	1.64250	0.94830	8.05008	H	10.33275	3.25030	4.46559
Se	0.00000	3.79319	8.05008	H	7.71846	4.45625	0.15999
Se	-1.64250	6.63809	8.05008	H	9.62372	4.47837	4.46559
Se	4.92750	0.94830	8.05008	H	7.26645	6.45376	0.84237
Se	3.28500	3.79319	8.05008	H	7.98122	7.32327	4.46559
Se	1.64250	6.63809	8.05008	H	-1.14846	1.23353	6.65199
Se	8.21250	0.94830	8.05008	H	-3.05372	1.21141	10.95759
Se	6.57000	3.79319	8.05008	H	-2.79096	4.07843	6.65199
Se	4.92750	6.63809	8.05008	H	-2.79096	4.07843	12.82401
Se	0.00000	1.89660	4.93392	H	-4.43346	6.92332	6.65199
Se	-1.64250	4.74149	4.93392	H	-6.33872	6.90120	10.95759
Se	-3.28500	7.58638	4.93392	H	-1.95590	9.51981	7.33437
Se	3.28500	1.89660	4.93392	H	-2.35153	10.57357	10.95759
Se	1.64250	4.74149	4.93392	H	1.32910	9.51981	7.33437
Se	0.00000	7.58638	4.93392	H	0.93347	10.57357	10.95759
Se	6.57000	1.89660	4.93392	H	3.28500	8.91251	6.65199
Se	4.92750	4.74149	4.93392	H	2.35153	10.57357	10.95759

Table 11: 2×2 MoS₂-MoS₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.82500	3.07375	S	1.58050	6.38751	1.56761
Mo	-1.58050	4.56251	3.07375	S	1.58050	6.38751	4.57989
Mo	3.16100	1.82500	3.07375	S	1.58050	-0.91250	7.71511
Mo	1.58050	4.56251	3.07375	S	1.58050	-0.91250	10.72739
Mo	1.58050	0.91250	9.22125	S	4.74150	-0.91250	7.71511
Mo	0.00000	3.65001	9.22125	S	4.74150	-0.91250	10.72739
Mo	4.74150	0.91250	9.22125	S	6.32200	1.82500	7.71511
Mo	3.16100	3.65001	9.22125	S	6.32200	1.82500	10.72739
S	0.00000	1.82500	7.71511	S	4.74150	4.56251	7.71511
S	-1.58050	4.56251	7.71511	S	4.74150	4.56251	10.72739
S	3.16100	1.82500	7.71511	H	-1.17649	4.32926	6.43763
S	1.58050	4.56251	7.71511	H	5.13709	-0.31062	4.13594
S	1.58050	0.91250	4.57989	H	4.19873	-0.16384	0.93794
S	0.00000	3.65001	4.57989	H	-2.83755	4.29354	10.28344
S	4.74150	0.91250	4.57989	H	-1.03773	-0.16384	0.93794
S	3.16100	3.65001	4.57989	H	-1.97609	-0.31062	4.13594
S	1.58050	0.91250	1.56761	H	-3.82176	4.65823	0.93794
S	0.00000	3.65001	1.56761	H	-4.41805	3.91898	4.13594
S	4.74150	0.91250	1.56761	H	-2.78403	6.45563	0.93794
S	3.16100	3.65001	1.56761	H	-2.44196	7.34167	4.13594
S	0.00000	1.82500	10.72739	H	0.37697	6.45563	0.93794
S	-1.58050	4.56251	10.72739	H	0.71904	7.34167	4.13594
S	3.16100	1.82500	10.72739	H	1.58050	-0.44599	6.43763
S	1.58050	4.56251	10.72739	H	0.71904	-1.86665	10.28344
S	-1.58050	0.91250	1.56761	H	4.74150	-0.44599	6.43763
S	-1.58050	0.91250	4.57989	H	5.60296	-1.86665	10.28344
S	-3.16100	3.65001	1.56761	H	5.77923	2.90135	7.08544
S	-3.16100	3.65001	4.57989	H	6.71759	3.04812	10.28344
S	-1.58050	6.38751	1.56761	H	4.33749	4.32926	6.43763
S	-1.58050	6.38751	4.57989	H	5.99855	4.29354	10.28344

Table 12: 3×3 MoS₂-MoS₂

Atom	X	Y	Z	Atom	X	Y	Z
Mo	0.00000	1.82500	27.66375	S	3.16100	7.30002	35.31739
Mo	-1.58050	4.56251	27.66375	S	-1.58050	0.91250	26.15761
Mo	-3.16100	7.30002	27.66375	S	-1.58050	0.91250	29.16989
Mo	3.16100	1.82500	27.66375	S	-3.16100	3.65001	26.15761
Mo	1.58050	4.56251	27.66375	S	-3.16100	3.65001	29.16989
Mo	0.00000	7.30002	27.66375	S	-4.74150	6.38751	26.15761
Mo	6.32200	1.82500	27.66375	S	-4.74150	6.38751	29.16989
Mo	4.74150	4.56251	27.66375	S	-3.16100	9.12502	26.15761
Mo	3.16100	7.30002	27.66375	S	-3.16100	9.12502	29.16989
Mo	1.58050	0.91250	33.81125	S	0.00000	9.12502	26.15761
Mo	0.00000	3.65001	33.81125	S	0.00000	9.12502	29.16989
Mo	-1.58050	6.38751	33.81125	S	3.16100	9.12502	26.15761
Mo	4.74150	0.91250	33.81125	S	3.16100	9.12502	29.16989
Mo	3.16100	3.65001	33.81125	S	1.58050	-0.91250	32.30511
Mo	1.58050	6.38751	33.81125	S	1.58050	-0.91250	35.31739
Mo	7.90250	0.91250	33.81125	S	4.74150	-0.91250	32.30511
Mo	6.32200	3.65001	33.81125	S	4.74150	-0.91250	35.31739
Mo	4.74150	6.38751	33.81125	S	7.90250	-0.91250	32.30511
S	0.00000	1.82500	32.30511	S	7.90250	-0.91250	35.31739
S	-1.58050	4.56251	32.30511	S	9.48300	1.82500	32.30511
S	-3.16100	7.30002	32.30511	S	9.48300	1.82500	35.31739
S	3.16100	1.82500	32.30511	S	7.90250	4.56251	32.30511
S	1.58050	4.56251	32.30511	S	7.90250	4.56251	35.31739
S	0.00000	7.30002	32.30511	S	6.32200	7.30002	32.30511
S	6.32200	1.82500	32.30511	S	6.32200	7.30002	35.31739
S	4.74150	4.56251	32.30511	H	-2.75699	7.06676	31.02763
S	3.16100	7.30002	32.30511	H	9.15955	1.18147	28.72594
S	1.58050	0.91250	29.16989	H	8.56326	1.92073	25.52794
S	0.00000	3.65001	29.16989	H	-3.55659	8.52314	34.87344
S	-1.58050	6.38751	29.16989	H	-1.03773	-0.16384	25.52794
S	4.74150	0.91250	29.16989	H	-1.97609	-0.31062	28.72594
S	3.16100	3.65001	29.16989	H	-2.61823	2.57366	25.52794
S	1.58050	6.38751	29.16989	H	-3.55659	2.42689	28.72594
S	7.90250	0.91250	29.16989	H	-5.40226	7.39574	25.52794
S	6.32200	3.65001	29.16989	H	-5.99855	6.65648	28.72594
S	4.74150	6.38751	29.16989	H	-4.36453	9.19314	25.52794
S	1.58050	0.91250	26.15761	H	-4.02246	10.07917	28.72594
S	0.00000	3.65001	26.15761	H	-1.20353	9.19314	25.52794
S	-1.58050	6.38751	26.15761	H	-0.86146	10.07917	28.72594
S	4.74150	0.91250	26.15761	H	4.36453	9.19314	25.52794
S	3.16100	3.65001	26.15761	H	4.02246	10.07917	28.72594
S	1.58050	6.38751	26.15761	H	0.37697	-0.98062	31.67544
S	7.90250	0.91250	26.15761	H	0.71904	-1.86665	34.87344
S	6.32200	3.65001	26.15761	H	5.94503	-0.98062	31.67544
S	4.74150	6.38751	26.15761	H	5.60296	-1.86665	34.87344
S	0.00000	1.82500	35.31739	H	9.10603	-0.98062	31.67544
S	-1.58050	4.56251	35.31739	H	8.76396	-1.86665	34.87344
S	-3.16100	7.30002	35.31739	H	10.14376	0.81678	31.67544
S	3.16100	1.82500	35.31739	H	10.74005	1.55604	34.87344
S	1.58050	4.56251	35.31739	H	8.56326	3.55429	31.67544
S	0.00000	7.30002	35.31739	H	9.15955	4.29354	34.87344
S	6.32200	1.82500	35.31739	H	5.91799	7.06676	31.02763
S	4.74150	4.56251	35.31739	H	6.71759	8.52314	34.87344

Table 13: 2×2 WS₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.59000	0.91799	3.12500	S	4.77000	4.58993	1.56250
W	0.00000	3.67195	3.12500	S	4.77000	4.58993	4.68750
W	4.77000	0.91799	3.12500	S	-1.59000	0.91799	7.81250
W	3.18000	3.67195	3.12500	S	-1.59000	0.91799	10.93750
W	-0.00000	1.83597	9.37500	S	-3.18000	3.67195	7.81250
W	-1.59000	4.58993	9.37500	S	-3.18000	3.67195	10.93750
W	3.18000	1.83597	9.37500	S	-1.59000	6.42591	7.81250
W	1.59000	4.58993	9.37500	S	-1.59000	6.42591	10.93750
S	0.00000	1.83597	4.68750	S	1.59000	6.42591	7.81250
S	-1.59000	4.58993	4.68750	S	1.59000	6.42591	10.93750
S	3.18000	1.83597	4.68750	H	-2.85281	4.33418	4.25218
S	1.59000	4.58993	4.68750	H	4.21631	-0.14902	7.17648
S	1.59000	0.91799	7.81250	H	5.17992	-0.30352	10.50218
S	0.00000	3.67195	7.81250	H	-1.16929	4.34704	0.29222
S	4.77000	0.91799	7.81250	H	1.59000	-0.43219	0.29222
S	3.18000	3.67195	7.81250	H	0.73711	-1.88374	4.25218
S	1.59000	0.91799	10.93750	H	3.56910	-0.97198	0.92648
S	0.00000	3.67195	10.93750	H	3.91711	-1.88374	4.25218
S	4.77000	0.91799	10.93750	H	5.93929	1.59308	0.29222
S	3.18000	3.67195	10.93750	H	6.76992	3.05748	4.25218
S	0.00000	1.83597	1.56250	H	4.34929	4.34704	0.29222
S	-1.59000	4.58993	1.56250	H	5.17992	5.81144	4.25218
S	3.18000	1.83597	1.56250	H	-1.16929	1.16088	6.54222
S	1.59000	4.58993	1.56250	H	-2.85281	1.17374	10.50218
S	1.59000	-0.91799	1.56250	H	-2.62631	2.60494	7.17648
S	1.59000	-0.91799	4.68750	H	-3.58992	2.45045	10.50218
S	4.77000	-0.91799	1.56250	H	-1.59000	5.94012	6.54222
S	4.77000	-0.91799	4.68750	H	-2.44289	7.39166	10.50218
S	6.36000	1.83597	1.56250	H	1.59000	5.94012	6.54222
S	6.36000	1.83597	4.68750	H	0.73711	7.39166	10.50218

Table 14: 3×3 WS₂-WS₂

Atom	X	Y	Z	Atom	X	Y	Z
W	1.59000	0.91799	28.12500	S	3.18000	7.34390	26.56250
W	0.00000	3.67195	28.12500	S	1.59000	-0.91799	26.56250
W	-1.59000	6.42591	28.12500	S	1.59000	-0.91799	29.68750
W	4.77000	0.91799	28.12500	S	4.77000	-0.91799	26.56250
W	3.18000	3.67195	28.12500	S	4.77000	-0.91799	29.68750
W	1.59000	6.42591	28.12500	S	7.95000	-0.91799	26.56250
W	7.95000	0.91799	28.12500	S	7.95000	-0.91799	29.68750
W	6.36000	3.67195	28.12500	S	9.54000	1.83597	26.56250
W	4.77000	6.42591	28.12500	S	9.54000	1.83597	29.68750
W	-0.00000	1.83597	34.37500	S	7.95000	4.58993	26.56250
W	-1.59000	4.58993	34.37500	S	7.95000	4.58993	29.68750
W	-3.18000	7.34390	34.37500	S	6.36000	7.34390	26.56250
W	3.18000	1.83597	34.37500	S	6.36000	7.34390	29.68750
W	1.59000	4.58993	34.37500	S	-1.59000	0.91799	32.81250
W	-0.00000	7.34390	34.37500	S	-1.59000	0.91799	35.93750
W	6.36000	1.83597	34.37500	S	-3.18000	3.67195	32.81250
W	4.77000	4.58993	34.37500	S	-3.18000	3.67195	35.93750
W	3.18000	7.34390	34.37500	S	-4.77000	6.42591	32.81250
S	0.00000	1.83597	29.68750	S	-4.77000	6.42591	35.93750
S	-1.59000	4.58993	29.68750	S	-3.18000	9.17987	32.81250
S	-3.18000	7.34390	29.68750	S	-3.18000	9.17987	35.93750
S	3.18000	1.83597	29.68750	S	0.00000	9.17987	32.81250
S	1.59000	4.58993	29.68750	S	0.00000	9.17987	35.93750
S	0.00000	7.34390	29.68750	S	3.18000	9.17987	32.81250
S	6.36000	1.83597	29.68750	S	3.18000	9.17987	35.93750
S	4.77000	4.58993	29.68750	H	-3.58992	8.56540	29.25218
S	3.18000	7.34390	29.68750	H	8.59721	1.93100	32.17648
S	1.59000	0.91799	32.81250	H	9.21281	1.17374	35.50218
S	0.00000	3.67195	32.81250	H	-2.75929	7.10100	25.29222
S	-1.59000	6.42591	32.81250	H	0.38910	-0.97198	25.92648
S	4.77000	0.91799	32.81250	H	0.73711	-1.88374	29.25218
S	3.18000	3.67195	32.81250	H	4.77000	-0.43219	25.29222
S	1.59000	6.42591	32.81250	H	5.62289	-1.88374	29.25218
S	7.95000	0.91799	32.81250	H	7.95000	-0.43219	25.29222
S	6.36000	3.67195	32.81250	H	8.80289	-1.88374	29.25218
S	4.77000	6.42591	32.81250	H	8.98631	2.90298	25.92648
S	1.59000	0.91799	35.93750	H	9.94992	3.05748	29.25218
S	0.00000	3.67195	35.93750	H	7.52929	4.34704	25.29222
S	-1.59000	6.42591	35.93750	H	8.35992	5.81144	29.25218
S	4.77000	0.91799	35.93750	H	5.93929	7.10100	25.29222
S	3.18000	3.67195	35.93750	H	7.62281	7.08814	29.25218
S	1.59000	6.42591	35.93750	H	-1.03631	-0.14902	32.17648
S	7.95000	0.91799	35.93750	H	-1.99992	-0.30352	35.50218
S	6.36000	3.67195	35.93750	H	-3.82721	4.68496	32.17648
S	4.77000	6.42591	35.93750	H	-4.44281	3.92770	35.50218
S	0.00000	1.83597	26.56250	H	-5.41721	7.43892	32.17648
S	-1.59000	4.58993	26.56250	H	-6.03281	6.68166	35.50218
S	-3.18000	7.34390	26.56250	H	-4.38090	9.23386	32.17648
S	3.18000	1.83597	26.56250	H	-4.03289	10.14562	35.50218
S	1.59000	4.58993	26.56250	H	1.20090	9.23386	32.17648
S	0.00000	7.34390	26.56250	H	0.85289	10.14562	35.50218
S	6.36000	1.83597	26.56250	H	3.18000	8.69408	31.54222
S	4.77000	4.58993	26.56250	H	2.32711	10.14562	35.50218