

Supporting Information

An Improved Self-adaptive Differential Evolution with Neighborhood Search Algorithm for Global Optimization of Bimetallic Clusters

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Table S1 The coordinates for all optimized structures of (PtNi)₃₈ clusters

Atom	Coordinates for Pt ₁ Ni ₃₇			Atom	Coordinates for Pt ₂ Ni ₃₆		
	X	Y	Z		X	Y	Z
Ni	-0.893715	-1.057559	-1.060697	Ni	3.392134	-1.991231	-0.449641
Ni	-3.970685	-0.143345	0.600284	Ni	2.567817	-0.945498	2.802536
Ni	2.198768	1.918926	-0.908738	Ni	1.670211	0.459660	-3.540611
Ni	1.630684	3.431308	0.980502	Ni	-1.948723	-1.327840	-1.995588
Ni	1.060753	2.182707	-3.103159	Ni	-0.667814	-0.311510	-3.846925
Ni	-1.039358	-2.166897	3.068812	Ni	2.133967	2.508101	-2.190914
Ni	3.198684	-2.241917	-0.525726	Ni	-1.291041	-3.571958	-1.104003
Ni	0.927099	1.047197	1.042160	Ni	0.251939	-1.759036	2.526929
Ni	2.067013	0.798427	3.237957	Ni	-2.346714	1.807145	2.714145
Ni	-1.335598	1.586565	-3.330673	Ni	-0.203953	-3.784959	1.130032
Ni	2.067776	-1.979964	-2.708910	Ni	-0.027706	-2.554475	-3.001784
Ni	-1.909219	3.081990	-1.431624	Ni	1.062052	-2.795568	-0.783339
Ni	2.637602	-0.729075	1.361679	Ni	-3.893009	-0.049863	-0.946980
Ni	-1.600276	-3.440746	-0.997387	Ni	0.054163	2.589576	3.057113
Ni	-0.344853	0.198325	3.074343	Ni	1.489206	-0.737126	0.569294
Ni	-2.094323	2.025619	2.767290	Ni	2.305693	-1.778353	-2.682347
Ni	0.489045	3.695745	-1.223395	Ni	-2.862480	-0.272510	1.366902
Ni	0.344500	2.559964	2.919114	Ni	2.137398	-2.978700	1.447647
Ni	-3.293082	-1.644869	-1.281925	Ni	-3.157972	-2.274607	-0.067781
Ni	-0.201015	1.308500	-1.135629	Ni	-1.084495	2.883760	0.802667
Ni	-0.458637	-3.705183	1.206511	Ni	-2.161596	3.023732	-1.496436
Ni	-2.664399	0.735598	-1.403466	Ni	-0.816908	-1.556323	0.249121
Ni	-0.792486	2.899418	0.758403	Ni	1.300475	3.503494	1.088809
Ni	1.938455	-3.113511	1.437861	Ni	-0.221261	1.738743	-2.543791
Ni	2.762192	0.391957	-2.784030	Ni	0.423554	-0.528322	-1.620698
Ni	1.472119	-0.456873	-0.817389	Ni	3.221051	2.295093	0.043122
Ni	1.366008	-1.595998	3.313790	Ni	0.703354	0.303160	3.912211
Ni	-0.335587	-2.586777	-2.952112	Ni	1.979399	1.307544	1.978727
Ni	-2.808154	-0.412621	2.844509	Ni	0.216577	3.715875	-1.138678
Ni	0.234399	-1.318862	1.117092	Ni	0.904033	1.498682	-0.297012
Ni	0.363650	-0.202363	-3.028114	Ni	-2.074072	-2.486987	2.159706
Ni	-2.036603	-0.807859	-3.254842	Ni	2.779839	0.253839	-1.328471
Ni	-2.216767	-1.965499	0.912474	Ni	-3.440259	2.021414	0.466830
Ni	0.802483	-2.850366	-0.757696	Ni	-1.677249	-0.484019	3.606569
Ni	3.893101	0.130003	-0.600847	Ni	3.835309	0.035424	0.908823
Ni	-3.256851	2.294894	0.523064	Ni	-2.597404	0.949910	-2.871091
Ni	3.334799	1.655972	1.286808	Pt	-0.437029	0.540917	1.648690
Pt	-1.537519	0.477168	0.853702	Pt	-1.518486	0.752818	-0.573784

Atom	Coordinates for Pt ₃ Ni ₃₅			Atom	Coordinates for Pt ₄ Ni ₃₄		
	X	Y	Z		X	Y	Z
Ni	2.290756	-2.318573	-0.141951	Ni	3.210537	-0.949230	0.890097
Ni	1.702551	-0.122109	-1.045271	Ni	1.875605	-2.920620	1.660475
Ni	0.271018	-2.182323	-3.915928	Ni	-1.422904	0.987572	-3.762050
Ni	-1.767778	3.585605	1.627755	Ni	2.077958	2.637939	-0.741662
Ni	2.051568	-2.042954	2.411395	Ni	-1.066490	2.593903	3.449925
Ni	-1.619831	-1.652689	0.836438	Ni	0.561173	3.025172	1.570780
Ni	0.498426	2.894690	2.383541	Ni	3.020568	1.408638	-2.935817
Ni	1.094970	1.449172	0.558732	Ni	-3.893479	1.430080	-0.074285
Ni	3.327077	1.694193	-0.546546	Ni	2.893632	-1.439968	-3.162660
Ni	2.977973	-0.160387	1.105028	Ni	-1.296114	-1.513224	-3.655725
Ni	-0.498063	2.969658	-0.338960	Ni	-2.328783	-1.057431	2.880248
Ni	-1.654967	-0.680427	-3.193090	Ni	3.995828	1.218230	-0.280187
Ni	-1.674551	-3.233786	-2.893277	Ni	-1.764807	2.508610	0.886993
Ni	2.924066	2.186251	1.966063	Ni	0.532592	1.965390	-2.499911
Ni	-2.757073	2.244012	-0.143407	Ni	2.509660	-2.561774	-0.749972
Ni	0.997002	-4.056328	-1.539820	Ni	-1.512046	-2.263426	-1.266785
Ni	1.854368	3.692243	0.186113	Ni	1.994179	1.078514	1.208125
Ni	0.558778	0.145912	-3.095718	Ni	-3.729808	-1.968673	-0.352338
Ni	-1.587063	-3.778668	-0.505438	Ni	1.321142	1.702210	3.590404
Ni	-0.804032	0.277589	4.179437	Ni	-0.330225	-0.133531	4.540702
Ni	3.013528	0.660606	-2.910411	Ni	-0.557898	-0.152204	-1.784835
Ni	-3.309463	0.004969	0.488494	Ni	0.934725	-0.101685	-3.714772
Ni	1.211117	2.144537	-1.834511	Ni	0.077888	1.372046	-0.161973
Ni	2.264687	-1.896357	-2.567852	Ni	0.276173	-3.625955	-0.183004
Ni	4.049270	-0.747379	-1.076699	Ni	-4.317641	-0.501686	1.478277
Ni	1.218018	0.481511	2.834446	Ni	-0.133968	-2.056580	2.834620
Ni	-3.252548	0.705350	-1.962698	Ni	1.787583	-0.653506	2.885150
Ni	-2.745247	-1.646164	-1.274816	Ni	-1.906453	1.890305	-1.492813
Ni	0.582892	-0.834884	0.901778	Ni	0.704138	-2.145586	-2.240394
Ni	-3.473622	1.765793	2.267919	Ni	-2.941235	1.236861	2.504530
Ni	-1.580487	2.493005	3.762763	Ni	-1.700475	-2.632433	1.091912
Ni	0.316266	-3.256031	0.909169	Ni	-0.253723	3.690651	-0.792387
Ni	-0.375662	-1.728584	2.921380	Ni	-2.998277	-0.271351	-2.036372
Ni	-2.704025	-0.627604	2.845552	Ni	4.378661	-0.954830	-1.310437
Ni	-1.174533	2.023782	-2.691182	Pt	-0.419381	0.533692	2.150595
Pt	-0.962075	0.405692	-0.790489	Pt	-2.002635	-0.172810	0.364121
Pt	-0.124609	-1.853124	-1.385068	Pt	0.468080	-1.168860	0.438425
Pt	-1.138702	0.993800	1.667131	Pt	1.956220	-0.034451	-1.227002

Atom	Coordinates for Pt ₅ Ni ₃₃			Atom	Coordinates for Pt ₆ Ni ₃₂		
	X	Y	Z		X	Y	Z
Ni	2.208945	1.625136	2.089619	Ni	-0.096126	-0.905541	-1.044386
Ni	-1.791469	2.831772	-0.413843	Ni	3.612699	2.013970	-0.570115
Ni	1.810799	0.508919	4.239782	Ni	3.215897	-3.203525	-0.051738
Ni	-2.305619	0.913421	-1.913310	Ni	-2.368128	1.284914	2.245977
Ni	0.034838	-2.369679	-3.686511	Ni	-0.998288	-2.261062	0.678545
Ni	-2.391701	-1.435341	-3.057321	Ni	-0.935295	2.164227	-3.404229
Ni	-1.671186	0.215410	4.084294	Ni	1.361562	2.656447	0.479791
Ni	0.248163	-1.313154	4.615727	Ni	-4.425631	0.208935	1.116839
Ni	-1.635544	-3.149028	-1.355726	Ni	0.907195	2.043687	2.869644
Ni	2.308026	2.554331	-0.188210	Ni	-0.048788	-1.945160	2.832066
Ni	-2.713545	-1.129119	-0.578634	Ni	0.528317	-3.283325	-0.996816
Ni	0.311475	4.010684	-0.958902	Ni	1.685715	-0.345977	3.219512
Ni	1.328256	-0.049929	-3.584721	Ni	-3.235227	1.455731	-1.992042
Ni	0.201437	2.353048	0.968641	Ni	-2.176628	3.645311	-1.791857
Ni	0.743013	-3.267533	-1.300606	Ni	-3.545896	-2.199590	0.468053
Ni	2.259463	-1.424332	-1.804137	Ni	3.197759	0.646631	-2.614508
Ni	2.161067	-2.347101	0.457939	Ni	-3.024171	2.400559	0.208933
Ni	-2.568013	-3.088830	0.996040	Ni	-0.877309	2.928618	1.304509
Ni	-1.305670	-2.326925	3.012996	Ni	3.891698	-1.200746	2.077997
Ni	-0.167803	-4.270093	0.972164	Ni	1.396299	2.607962	-2.124253
Ni	0.117235	2.189065	3.506614	Ni	0.734452	0.345993	-2.976886
Ni	-1.902500	1.790501	2.138729	Ni	-2.316344	-1.091947	2.339049
Ni	-1.148696	0.571553	0.183188	Ni	0.796156	-3.864263	1.348129
Ni	2.837052	0.946534	-1.929276	Ni	-1.675218	-0.182144	-2.706325
Ni	-3.533358	1.109720	0.298995	Ni	-0.041071	4.170712	-0.784399
Ni	2.655451	-0.756558	2.245684	Ni	1.625671	0.621184	-0.712473
Ni	2.105183	3.269713	-2.528028	Ni	-0.000184	-2.073311	-3.178347
Ni	0.630950	2.276695	-4.184430	Ni	2.284987	-2.793721	2.945800
Ni	1.058540	-2.579377	2.615968	Ni	-4.060866	-0.868290	-1.640956
Ni	-1.006401	0.479678	-3.867113	Ni	-0.687954	0.287235	3.775973
Ni	3.833649	0.511231	0.375301	Ni	-2.017669	-2.343351	-1.545291
Ni	-1.368186	3.057002	-2.881584	Ni	2.690292	0.868350	1.441681
Ni	-2.468369	-0.612876	1.828254	Pt	3.844541	-0.622816	-0.388487
Pt	0.136302	-0.074458	2.352126	Pt	-0.723089	1.676731	-0.943594
Pt	1.372004	0.097791	0.099571	Pt	1.623882	-1.477656	0.798949
Pt	0.313270	1.585176	-1.716302	Pt	2.227585	-1.631485	-1.900320
Pt	-0.297678	-0.874631	-1.735544	Pt	-0.109900	0.334939	1.282419
Pt	-0.399380	-1.828418	0.602568	Pt	-2.260923	-0.068227	-0.066843

Atom	Coordinates for Pt ₇ Ni ₃₁			Atom	Coordinates for Pt ₈ Ni ₃₀		
	X	Y	Z		X	Y	Z
Ni	2.293409	-2.400419	0.555230	Ni	-2.352852	-2.594553	2.097724
Ni	0.754157	-4.080120	1.674655	Ni	1.434747	3.614195	1.243846
Ni	0.909921	-2.713874	-1.785505	Ni	-0.462910	0.514104	1.684824
Ni	-1.042322	0.362441	2.996964	Ni	2.045217	-3.214450	1.476792
Ni	-3.269000	-1.422298	-2.766203	Ni	2.366158	2.587209	-2.091820
Ni	-0.198199	1.593771	-4.169795	Ni	0.416380	3.901160	-1.141977
Ni	-0.063327	3.716141	-0.434858	Ni	2.524712	-1.147344	2.996246
Ni	3.132435	0.191583	3.136391	Ni	0.036901	2.514001	3.054886
Ni	-0.677909	-4.351705	-0.654503	Ni	-0.080756	1.861496	-2.559852
Ni	-1.850061	-3.802484	1.574665	Ni	-1.829338	-0.523330	3.468942
Ni	1.237791	3.929156	1.749823	Ni	-0.385354	-3.935619	1.029044
Ni	-1.379285	-3.175178	-2.800198	Ni	-1.448046	-3.606847	-1.249749
Ni	3.273164	2.370490	1.830984	Ni	1.006936	-2.890104	-0.811117
Ni	-2.607671	-2.624368	-0.586601	Ni	0.569265	0.188354	3.910800
Ni	1.094710	1.773605	3.107855	Ni	3.915616	-0.077702	1.165521
Ni	1.248842	3.351186	-2.625977	Ni	-2.014193	3.179989	-1.589727
Ni	0.964024	-0.456463	4.375563	Ni	2.359506	-1.805900	-2.612539
Ni	-1.177327	-0.840167	-4.234218	Ni	1.981461	1.239622	2.135809
Ni	-0.961154	0.357856	0.510402	Ni	-3.442818	2.166981	0.345323
Ni	-1.330958	3.393230	-2.645331	Ni	1.825882	0.525246	-3.470470
Ni	2.174588	-2.386437	3.089126	Ni	-2.361703	1.802316	2.613027
Ni	-3.009402	1.169205	1.624811	Ni	-3.405907	-2.250058	-0.183219
Ni	-0.886969	2.545359	1.685602	Ni	-3.946645	0.112154	-1.052586
Ni	2.529464	3.617987	-0.444155	Ni	-2.907642	-0.211014	1.235160
Ni	-3.150320	-0.117517	-0.556354	Ni	-0.033441	-2.515906	-3.053360
Ni	1.377764	-0.543505	-0.748374	Ni	-2.533178	1.133535	-2.994356
Ni	-2.443525	-1.303125	1.605901	Ni	3.451278	-2.153178	-0.347214
Ni	-2.183790	2.277183	-0.495054	Ni	-0.567067	-0.184762	-3.911290
Ni	1.075966	-0.358228	-3.169222	Ni	0.462910	-0.514104	-1.684824
Ni	2.562709	1.391236	-1.680294	Ni	3.374882	2.284511	0.296155
Ni	3.308405	0.140378	0.600969	Pt	1.508850	-0.833333	0.668842
Pt	-0.996952	-0.941609	-1.711710	Pt	-2.035551	-1.239321	-2.101340
Pt	1.232955	1.698618	0.528360	Pt	2.938495	0.236519	-1.185041
Pt	-0.290342	-2.126905	0.449976	Pt	0.959671	1.565763	-0.214101
Pt	1.092417	-0.477167	1.827571	Pt	-1.508851	0.833332	-0.668842
Pt	-2.289542	0.982371	-2.757716	Pt	-1.004766	2.918476	0.753629
Pt	-0.043840	1.428834	-1.648506	Pt	-0.959672	-1.565763	0.214102
Pt	-0.410825	-2.169064	2.989724	Pt	0.101823	-1.915676	2.532753

Atom	Coordinates for Pt ₉ Ni ₂₉			Atom	Coordinates for Pt ₁₀ Ni ₂₈		
	X	Y	Z		X	Y	Z
Ni	3.680290	2.485747	-0.088954	Ni	-3.644069	-1.778823	-2.065156
Ni	-3.871147	0.284016	2.265622	Ni	0.595720	0.624795	-3.099131
Ni	-3.043589	-2.349396	2.327316	Ni	-1.586143	1.803233	-3.913129
Ni	-0.244265	-4.513356	-0.501282	Ni	1.566033	-4.039735	1.313392
Ni	-2.774088	3.536926	-0.689866	Ni	0.797680	-0.164196	-0.720443
Ni	-1.860771	1.558171	-2.113941	Ni	-2.377755	2.379844	0.481947
Ni	2.246866	3.344353	-2.049963	Ni	3.142849	0.024132	0.166218
Ni	1.959919	-1.633944	2.168869	Ni	-3.630915	0.758585	-2.638889
Ni	-2.640698	-0.868271	-1.640229	Ni	0.642510	-2.789682	3.430118
Ni	-0.682928	-1.579467	2.884121	Ni	-1.036668	-4.050187	1.662554
Ni	0.644555	2.551720	2.070826	Ni	1.608744	4.201558	-0.550029
Ni	4.441430	0.063681	-0.032225	Ni	-1.297278	0.232668	0.986729
Ni	-0.607289	-2.430615	-2.020501	Ni	2.695849	-0.523781	-2.267252
Ni	0.632069	1.471439	-2.776166	Ni	1.634319	-0.483059	4.110993
Ni	3.687651	-2.483358	0.504123	Ni	2.156854	-2.268974	-0.510668
Ni	3.782693	-1.542903	-1.935492	Ni	-2.399997	-1.912038	1.452383
Ni	-0.320580	-0.126267	-1.089620	Ni	-1.612552	-3.290164	-2.761464
Ni	3.025731	0.903201	-2.033964	Ni	2.178010	1.812579	-1.433538
Ni	1.668337	-3.971267	1.223257	Ni	-0.992942	4.386868	-0.245141
Ni	1.396950	-0.962539	-2.719154	Ni	-3.414555	-0.031427	-0.229823
Ni	-1.501887	1.026578	2.823073	Ni	0.677657	3.992908	1.896522
Ni	-0.918295	4.259762	1.030451	Ni	-2.584561	3.192081	-1.920559
Ni	-3.090011	2.723269	1.786739	Ni	-2.620165	-3.676767	-0.367445
Ni	-4.342797	-1.358440	0.268791	Ni	0.582643	-1.897745	-2.528762
Ni	-1.001785	-3.921769	1.942408	Ni	-0.722411	1.989481	2.604051
Ni	1.598532	4.164524	0.348412	Ni	3.556912	0.590400	2.680125
Ni	-0.946817	-0.378800	-3.469013	Ni	-0.736157	-0.663045	3.203809
Ni	2.751199	0.903830	1.676131	Ni	1.648190	2.193916	3.505710
Ni	0.410361	0.165290	1.551071	Pt	1.168626	0.399695	1.781958
Pt	1.802229	-3.044774	-1.196752	Pt	-1.384836	1.001851	-1.491509
Pt	-0.246334	3.474076	-1.349450	Pt	-1.397945	-1.526954	-0.919722
Pt	2.055463	-0.702547	-0.252486	Pt	0.180181	-1.899106	1.103391
Pt	0.062759	-2.164831	0.460424	Pt	2.555431	-1.730361	2.024846
Pt	-2.302584	-2.953611	-0.088977	Pt	-0.008963	3.023061	-2.227067
Pt	-3.576360	1.099741	-0.183934	Pt	2.576904	2.413263	1.087943
Pt	1.287877	1.740031	-0.309698	Pt	-1.628589	-0.743688	-3.338950
Pt	-1.970301	-0.599421	0.843171	Pt	0.201387	2.192587	0.178226
Pt	-1.192385	1.829222	0.366862	Pt	-0.043716	-3.681463	-0.711116

Atom	Coordinates for Pt ₁₁ Ni ₂₇			Atom	Coordinates for Pt ₁₂ Ni ₂₆		
	X	Y	Z		X	Y	Z
Ni	2.472153	3.509498	-1.281462	Ni	-2.648557	1.586016	1.864973
Ni	1.296754	-0.639742	-0.672503	Ni	-3.215282	-0.245677	0.192038
Ni	-1.427694	-1.613528	-3.927911	Ni	3.332896	0.296552	-0.181367
Ni	-0.901658	0.912641	2.957289	Ni	2.007788	0.667290	4.098513
Ni	0.910523	-3.695616	2.391835	Ni	3.491193	2.781414	0.413357
Ni	2.341808	-2.235336	0.876262	Ni	-1.275357	-3.267653	2.911015
Ni	-1.706921	-3.487343	2.398611	Ni	2.461544	-2.185271	0.650492
Ni	0.845734	-2.980170	-1.273832	Ni	2.198069	3.390584	-1.941130
Ni	-0.473186	0.723152	-4.394836	Ni	1.177274	-0.697693	-0.827088
Ni	0.896600	-0.965918	-3.075514	Ni	-0.836616	0.486599	0.585379
Ni	-3.206279	-0.229941	-0.340985	Ni	1.291374	-3.483285	2.520886
Ni	-0.858803	2.853817	1.252018	Ni	-3.728119	-2.112196	-1.554946
Ni	-3.423671	-1.943293	-2.286899	Ni	1.379350	4.318778	0.359824
Ni	2.440350	1.062024	-2.027920	Ni	-1.737091	-3.840207	-1.565831
Ni	-1.450476	-3.682006	-2.118203	Ni	-2.024465	-1.921234	-3.516556
Ni	1.218453	0.355561	4.383768	Ni	-0.512070	-4.417297	0.664675
Ni	1.099592	2.789224	-3.327543	Ni	3.768417	0.982429	2.227693
Ni	2.367518	-1.781639	3.380550	Ni	-0.683915	2.955507	1.140286
Ni	-2.944670	1.464547	1.504221	Ni	-2.028189	2.568578	-3.250103
Ni	1.301977	4.264550	0.919938	Ni	0.656145	-3.079515	-1.157113
Ni	3.398448	2.687774	1.172277	Ni	2.879157	-1.544832	3.077094
Ni	-1.487187	2.840813	-3.307740	Ni	-1.180476	0.367611	-4.314615
Ni	-0.595894	-4.448366	0.220919	Ni	0.523319	2.511146	-3.680902
Ni	-0.922795	0.448920	0.490816	Ni	2.070885	0.891067	-2.479207
Ni	-2.347941	-0.987265	1.975841	Ni	0.400616	-1.214389	-3.102016
Ni	3.314893	0.263437	0.401738	Ni	-2.003122	-0.816706	2.399120
Ni	3.352149	0.737970	2.900055	Pt	1.495144	0.024055	1.647892
Pt	-2.289089	2.206300	-0.897747	Pt	0.315849	-1.274612	3.541266
Pt	-2.513528	0.473277	-2.772469	Pt	-2.489353	-2.732170	0.660303
Pt	1.244672	1.826270	0.152972	Pt	-0.367421	3.478324	-1.417214
Pt	-1.107716	-1.263942	-1.443364	Pt	-2.930304	0.254601	-2.369272
Pt	-0.145037	3.584642	-1.165204	Pt	-1.313130	-1.376365	-1.151297
Pt	1.200290	-0.116288	1.869062	Pt	-0.354146	1.154586	3.076548
Pt	-0.224649	-1.583627	3.396663	Pt	-0.481539	0.955241	-1.951208
Pt	-0.165954	1.113142	-1.910286	Pt	1.654306	2.525920	2.263897
Pt	-0.253417	-2.025946	0.882576	Pt	1.229438	1.831178	-0.201451
Pt	-2.553787	-2.749029	0.041442	Pt	-0.096070	-1.949704	1.064709
Pt	1.298438	2.311436	2.655565	Pt	-2.427543	2.131330	-0.698646

Atom	Coordinates for Pt ₁₃ Ni ₂₅			Atom	Coordinates for Pt ₁₄ Ni ₂₄		
	X	Y	Z		X	Y	Z
Ni	3.522979	-2.681285	1.106226	Ni	2.840814	-2.801431	-0.942810
Ni	-0.180266	4.492624	0.278337	Ni	2.885848	-1.684096	2.497001
Ni	-0.293465	2.660480	2.064564	Ni	2.403287	2.120152	-2.608520
Ni	3.859285	2.510259	0.349660	Ni	4.037881	-0.863848	0.367936
Ni	-0.705545	0.317175	1.429035	Ni	1.233616	0.183689	-3.802811
Ni	-0.824158	-4.017782	1.874583	Ni	-0.908519	-3.777730	1.355583
Ni	1.936217	3.769023	1.541438	Ni	0.040760	-0.581723	-1.721631
Ni	0.562924	1.609845	-2.743602	Ni	1.427192	-2.216431	-3.003725
Ni	2.516893	-1.681100	-1.042691	Ni	-3.787654	-1.607700	0.505040
Ni	-0.489494	3.928680	-2.252553	Ni	-1.281406	-0.118108	-3.781716
Ni	3.112148	-1.046566	3.097341	Ni	-2.902485	2.810552	0.866943
Ni	1.557406	-0.649486	-3.156036	Ni	-4.028275	0.834169	-0.421538
Ni	0.267647	-2.504862	-1.969523	Ni	2.303299	3.289169	0.872128
Ni	-2.844410	-0.895802	1.573993	Ni	-2.375939	-3.352404	-0.718060
Ni	-3.095855	-3.213801	0.513873	Ni	-0.044729	0.620925	1.707784
Ni	-0.582991	-1.681478	2.872462	Ni	1.651475	-3.560646	1.236404
Ni	-1.103856	-4.347099	-0.735809	Ni	0.969089	3.834971	-1.310687
Ni	-4.104488	1.554181	-0.983237	Ni	1.041034	2.492302	2.943128
Ni	-2.641479	1.800483	1.082027	Ni	-2.793531	1.552974	-2.582419
Ni	3.268806	1.525220	2.685499	Ni	-1.718332	3.565521	-1.303241
Ni	-4.307969	-1.191281	-0.488716	Ni	-1.483733	2.286755	2.930224
Ni	1.018671	0.469538	3.184600	Ni	3.780140	1.616729	-0.444143
Ni	-2.585495	3.610800	-0.726790	Ni	-1.195275	-0.074262	3.812821
Ni	-3.654649	-0.237281	-2.797016	Ni	-2.349138	-2.054982	2.658144
Ni	0.481887	-0.200611	-0.968757	Pt	2.603896	0.820715	1.732628
Pt	2.795525	0.934998	-1.459448	Pt	2.667931	-0.323120	-1.735686
Pt	1.197906	-3.591437	0.270861	Pt	-1.199927	-1.368856	0.469106
Pt	1.530782	-3.209598	2.726515	Pt	-2.671470	0.358069	1.723341
Pt	-2.347366	-2.307876	-1.824340	Pt	1.420141	0.043493	3.791253
Pt	-2.049424	1.838254	-2.579837	Pt	-0.205632	1.910806	-2.562184
Pt	-1.061438	-0.477884	-3.071785	Pt	1.204666	1.390172	-0.454961
Pt	1.406936	-1.196946	1.239348	Pt	-1.163353	-2.579852	-2.895386
Pt	-0.874115	-2.021370	0.296908	Pt	1.452017	-1.121111	0.410375
Pt	3.709478	-0.095601	0.692861	Pt	-2.594104	-0.917439	-1.698464
Pt	-0.569363	2.106230	-0.463117	Pt	0.270281	-1.848077	2.631799
Pt	1.713216	3.215728	-1.006878	Pt	-0.300419	3.087600	0.796697
Pt	-2.098950	0.022696	-0.745962	Pt	-1.459583	1.127707	-0.434379
Pt	1.584058	1.373318	0.795561	Pt	0.230134	-3.094655	-0.885977

Atom	Coordinates for Pt ₁₅ Ni ₂₃			Atom	Coordinates for Pt ₁₆ Ni ₂₂		
	X	Y	Z		X	Y	Z
Ni	3.982683	-0.490800	0.974709	Ni	-2.996642	2.387350	-1.667397
Ni	-0.584562	-0.160918	-3.960315	Ni	-0.914150	-1.163278	-3.731191
Ni	-1.770039	3.394124	-1.498059	Ni	-4.055202	0.730353	-0.022246
Ni	1.812506	-3.430274	1.414476	Ni	-1.474499	0.829286	3.639891
Ni	-3.314469	2.499481	0.350596	Ni	-3.689921	-1.813312	-0.273791
Ni	-0.745013	-3.937667	1.096177	Ni	0.055984	0.099396	-1.828293
Ni	3.212863	-2.455234	-0.556250	Ni	-0.725831	-4.044641	-0.304335
Ni	-1.905140	-3.545573	-1.140826	Ni	1.136203	1.557519	-3.520490
Ni	0.716449	0.062590	3.953916	Ni	2.240225	2.949427	1.934369
Ni	0.701929	3.937192	-1.009885	Ni	-2.941131	2.066734	1.932569
Ni	2.599084	2.555339	-2.053568	Ni	4.051406	-0.737094	0.146206
Ni	-1.757775	-0.361614	3.579298	Ni	1.252447	-1.223526	3.611790
Ni	2.085695	-1.959543	-2.805353	Ni	-0.055984	-0.099396	1.828293
Ni	-3.947476	0.444814	-1.056820	Ni	0.729626	4.051381	0.180375
Ni	-3.637503	-1.940511	-0.130537	Ni	1.822750	-3.694496	-0.082817
Ni	-2.546233	-2.362915	2.191887	Ni	3.693717	1.820050	0.149831
Ni	3.636993	1.997701	0.208202	Ni	2.824596	-2.273634	1.873154
Ni	1.759461	3.469090	1.319375	Ni	3.100679	-2.202637	-1.730228
Ni	-2.426963	1.345932	-2.980220	Ni	-2.344263	-3.134139	1.463254
Ni	0.309821	2.438917	3.160318	Ni	-2.109317	-2.772911	-2.125609
Ni	-0.360018	0.522729	1.717375	Ni	-1.826547	3.687756	0.206777
Ni	0.380027	-0.534649	-1.698310	Ni	2.225851	2.979811	-1.680113
Ni	2.536967	-1.435459	2.924663	Pt	-0.356633	2.525061	1.993338
Pt	1.113710	1.513673	-0.204453	Pt	0.498889	-2.505170	-1.987902
Pt	-0.434712	-2.626839	-3.081586	Pt	-2.571371	-0.193916	-1.956263
Pt	-1.455574	0.979486	-0.635967	Pt	-1.481975	1.391072	-3.541759
Pt	-2.239493	2.056138	2.692040	Pt	1.087244	1.393901	3.681078
Pt	0.011132	-1.954932	2.536964	Pt	1.699882	-1.004191	-3.574548
Pt	0.092280	1.948115	-2.577416	Pt	-1.500621	1.128104	0.035405
Pt	0.675767	-3.039632	-0.886609	Pt	-2.665117	-0.538274	1.756112
Pt	-2.946917	0.090225	1.324410	Pt	1.128447	1.497711	0.095952
Pt	-1.115586	-1.505878	0.247294	Pt	-1.127225	-1.495542	-0.135847
Pt	2.944232	0.032974	-1.346294	Pt	0.242739	-2.727272	1.726147
Pt	-2.170313	-1.116538	-2.118921	Pt	1.499399	-1.130273	0.004490
Pt	2.202524	1.013280	2.092898	Pt	-0.384996	2.707381	-1.731584
Pt	-0.795725	3.003985	0.888490	Pt	2.551224	0.336062	1.963373
Pt	1.471522	-0.992962	0.624590	Pt	-1.305150	-1.780780	3.435229
Pt	1.907866	0.546153	-3.556289	Pt	2.685265	0.396127	-1.763223

Atom	Coordinates for Pt ₁₇ Ni ₂₁			Atom	Coordinates for Pt ₁₈ Ni ₂₀		
	X	Y	Z		X	Y	Z
Ni	2.969299	0.252434	-2.740240	Ni	-1.609336	-1.938723	-3.560814
Ni	0.602790	2.272900	3.347788	Ni	3.311780	-1.654169	0.037327
Ni	1.986771	-2.045237	-2.918022	Ni	-0.324326	2.565727	-3.314165
Ni	1.423171	-0.659807	-0.887867	Ni	-2.922351	-1.003316	1.334137
Ni	-1.038392	-0.881672	-1.180452	Ni	2.587438	1.164015	-3.538415
Ni	0.019379	-1.510955	0.982705	Ni	-0.490770	-2.474775	3.206748
Ni	-0.975291	2.242456	-3.363881	Ni	-1.298778	0.149818	-0.177512
Ni	-4.060389	0.443698	0.455410	Ni	-2.725379	-3.700059	0.509755
Ni	1.590749	2.397618	-2.934616	Ni	0.760244	3.970698	1.847810
Ni	2.162326	3.168350	1.458874	Ni	3.331070	0.339978	1.579231
Ni	2.072681	0.156749	3.545483	Ni	-0.042380	0.506876	4.698632
Ni	-2.944949	2.767708	0.635756	Ni	1.221955	-0.372884	0.466962
Ni	-3.582439	-1.027265	-1.581213	Ni	-3.648796	0.620976	-0.757470
Ni	1.361220	-3.623969	1.288036	Ni	2.606154	3.100151	-2.041362
Ni	1.000382	-2.149844	3.281278	Ni	-0.155429	-1.242905	-1.652848
Ni	-1.402735	3.654044	-1.233980	Ni	-2.685055	0.470566	3.734559
Ni	1.167288	3.832681	-0.827715	Ni	-0.092495	-4.674155	0.692546
Ni	3.653044	1.061143	1.680697	Ni	-0.124896	1.914145	0.788248
Ni	-3.085798	-0.221815	2.779235	Ni	-1.552350	3.953259	0.994991
Ni	-1.940419	2.095888	2.946937	Ni	0.694797	-2.796426	-3.384679
Ni	-2.186189	-3.105380	-1.490739	Pt	-2.636686	1.642567	1.418926
Pt	4.004407	-0.458137	-0.469753	Pt	-0.688929	-2.201875	0.646871
Pt	2.618739	-1.319120	1.444112	Pt	1.615829	-0.877769	3.153450
Pt	-1.553198	-2.388641	2.889257	Pt	0.354362	-0.070115	-3.829981
Pt	-2.658465	-1.760154	0.719549	Pt	1.369378	-3.134219	-0.869981
Pt	0.439799	0.057700	-3.238299	Pt	1.596743	-2.850506	1.628099
Pt	-0.393210	2.969748	1.056205	Pt	1.415299	1.613901	2.801364
Pt	-0.512295	-0.074039	3.162845	Pt	-1.828565	0.479714	-2.672399
Pt	2.644154	1.695335	-0.637029	Pt	-1.809151	2.487680	-1.119793
Pt	1.096179	0.827658	1.267118	Pt	3.379789	0.763413	-1.029586
Pt	0.042807	1.523455	-1.081419	Pt	-0.668247	-0.063699	2.300150
Pt	2.923338	-2.764701	-0.609205	Pt	0.830814	1.192298	-1.552379
Pt	-2.050040	-0.183089	-3.497092	Pt	-1.006113	2.416259	3.161810
Pt	-0.574011	-2.257704	-3.336749	Pt	0.391013	3.719848	-0.899503
Pt	-1.532436	0.620444	0.871150	Pt	2.305989	2.466943	0.438676
Pt	0.411777	-3.109977	-1.106078	Pt	2.271753	-1.073111	-2.298557
Pt	-1.179773	-3.810732	0.804405	Pt	-2.669538	-1.754525	-1.207762
Pt	-2.520274	1.312231	-1.482493	Pt	-1.064833	-3.655601	-1.533087

Atom	Coordinates for Pt ₁₉ Ni ₁₉			Atom	Coordinates for Pt ₂₀ Ni ₁₈		
	X	Y	Z		X	Y	Z
Ni	0.385640	1.990326	-0.347507	Ni	-1.738606	-0.079784	-1.225289
Ni	4.322408	1.485152	0.911463	Ni	-2.046356	1.833264	3.584890
Ni	3.564178	-1.760588	0.704684	Ni	-3.964602	-0.883206	-1.835264
Ni	0.795212	4.320742	0.332239	Ni	-2.170333	3.524263	0.865817
Ni	-1.358399	-1.632492	-0.310884	Ni	0.367587	0.882511	-0.904107
Ni	0.044271	-0.111502	-3.787065	Ni	2.341304	1.687164	3.359101
Ni	1.913640	-3.793061	-1.793054	Ni	0.943952	2.659491	-2.499602
Ni	4.103501	0.755872	-1.839061	Ni	-1.733991	-2.911596	1.488794
Ni	-2.919002	-3.394636	0.410229	Ni	4.476815	0.023963	-1.209867
Ni	0.128997	-0.100449	1.340039	Ni	2.512899	3.237041	1.428539
Ni	-4.290022	0.668459	1.434900	Ni	1.245745	1.130929	1.227044
Ni	-0.582843	-1.141192	3.482953	Ni	-0.130442	-1.079232	0.890688
Ni	1.501902	-4.373768	0.970693	Ni	-3.851986	1.113923	2.096736
Ni	-3.227540	2.875508	1.412585	Ni	-2.901127	0.991278	-3.086823
Ni	-3.618015	1.674408	-1.526354	Ni	0.161844	-1.416783	-1.517623
Ni	0.599113	3.745814	-2.069432	Ni	0.156985	-2.211106	3.035834
Ni	0.045146	-0.086941	-1.316255	Ni	4.288815	-1.714841	1.073703
Ni	0.515363	1.140065	3.459894	Ni	2.080058	-2.797202	-1.756302
Ni	-2.610926	-2.922268	-2.002030	Pt	-3.555509	1.475700	-0.430815
Pt	-1.961303	0.894219	0.192017	Pt	2.137011	0.092551	-2.626969
Pt	-0.120272	-2.359899	-2.513470	Pt	0.096520	0.409079	3.349811
Pt	1.944591	2.360522	1.646689	Pt	-3.201562	-0.912689	0.642957
Pt	2.673776	0.066585	2.424199	Pt	0.002378	2.919939	2.496563
Pt	1.139691	-2.086659	-0.094028	Pt	-1.527781	2.512732	-1.497954
Pt	-0.524401	-4.051275	-0.674787	Pt	0.777797	-1.654520	-3.981114
Pt	2.186244	-1.127799	-2.318016	Pt	-0.393776	-3.596656	-2.782211
Pt	1.709028	1.440058	-2.551889	Pt	-1.403234	1.145156	1.098887
Pt	2.793464	2.840790	-0.744463	Pt	-1.798174	-1.513839	-3.390583
Pt	2.300485	0.324600	-0.118410	Pt	-2.068389	-0.714193	2.863937
Pt	-0.659611	-3.049073	1.701376	Pt	-0.333861	0.578680	-3.373251
Pt	-1.679885	3.429135	-0.560054	Pt	3.817095	0.864085	1.257361
Pt	-1.148317	1.878014	-2.471613	Pt	1.901555	-2.886973	1.116877
Pt	-0.677176	2.778058	1.795517	Pt	2.733265	1.890567	-0.792049
Pt	-2.620073	-1.257838	1.836316	Pt	2.295485	-0.809479	2.525084
Pt	-3.772990	-0.918777	-0.516100	Pt	0.012714	-3.699275	-0.270677
Pt	-2.244190	-0.398377	-2.448595	Pt	2.295716	-0.724423	-0.169767
Pt	-2.042819	0.960077	2.824854	Pt	0.335669	3.276790	0.025718
Pt	1.594281	-2.175806	2.446872	Pt	-2.161481	-2.643310	-1.078072

Atom	Coordinates for Pt ₂₁ Ni ₁₇			Atom	Coordinates for Pt ₂₂ Ni ₁₆		
	X	Y	Z		X	Y	Z
Ni	-1.239683	-1.540444	3.216829	Ni	-1.143387	-1.001195	-0.975244
Ni	1.817451	-0.054244	1.049179	Ni	-3.597443	-1.501559	-1.194565
Ni	0.222126	2.803042	3.671237	Ni	1.140778	2.121730	-3.355811
Ni	-0.003022	1.250831	-3.610706	Ni	4.013641	-0.177903	-0.813129
Ni	-1.791586	1.130355	-0.023152	Ni	3.072208	-2.597489	-0.667930
Ni	1.786683	4.068967	1.622553	Ni	-1.115816	-2.201014	3.398275
Ni	-3.097522	-1.891196	-2.577760	Ni	-1.420657	1.808865	-3.493004
Ni	4.240443	0.264203	1.280145	Ni	-1.387808	0.585590	0.886263
Ni	3.163683	-2.589913	-1.885052	Ni	1.780823	-2.288207	-2.896857
Ni	2.947296	-0.866318	3.076743	Ni	-0.692514	-3.864412	1.452576
Ni	1.131041	-4.086526	0.111495	Ni	1.028873	1.034813	1.069695
Ni	-0.462366	-0.478881	1.141245	Ni	1.863835	-3.408572	1.453940
Ni	-1.819505	3.398714	0.664172	Ni	2.717890	0.131052	-3.034736
Ni	-3.397555	-2.710935	-0.244976	Ni	0.728813	3.846793	-1.466253
Ni	-1.653413	-1.076231	-0.778852	Ni	0.794731	2.681447	2.962210
Ni	1.066901	-3.196343	-2.996012	Ni	-1.823256	3.439501	-1.527772
Ni	2.334183	1.948495	-2.459180	Pt	1.447532	-0.618387	-0.923285
Pt	3.106212	-2.190629	0.656004	Pt	0.511051	-3.103436	-0.772609
Pt	-1.114395	-2.962027	0.953578	Pt	1.492526	-1.740206	3.474794
Pt	2.789321	2.142545	0.140936	Pt	2.803056	-0.965089	1.359143
Pt	0.841173	3.472359	-0.795069	Pt	-2.739530	-0.133761	3.020463
Pt	-1.036491	-3.403534	-1.525528	Pt	2.406043	1.852244	-1.091502
Pt	0.498504	0.792239	-1.132885	Pt	2.000421	3.486937	0.796728
Pt	0.613129	0.265375	3.357793	Pt	-1.803398	2.257841	2.844761
Pt	-3.015577	-0.786146	1.485928	Pt	-0.546419	3.145527	0.741492
Pt	-0.626193	-1.259738	-3.065147	Pt	-0.187881	1.441883	-1.250309
Pt	1.798346	-0.621052	-3.073721	Pt	-0.183406	0.254185	3.301284
Pt	2.520180	1.793661	2.705577	Pt	-2.800480	1.012366	-1.387873
Pt	-1.745317	1.199227	2.656671	Pt	-0.854882	-2.674572	-2.941781
Pt	-1.283765	2.830114	-1.929894	Pt	-3.072576	2.593429	0.638712
Pt	1.048001	-2.331611	2.098139	Pt	0.146311	-0.286960	-3.212350
Pt	-2.384876	0.640779	-2.592034	Pt	0.179949	-1.451560	1.265458
Pt	0.908823	-1.750453	-0.786802	Pt	-2.354445	-0.633713	-3.310764
Pt	-4.070660	-0.099622	-0.741451	Pt	-2.442898	-1.895946	1.149196
Pt	-3.919320	1.609295	1.276922	Pt	-1.983430	-3.508004	-0.799345
Pt	-3.700122	2.422737	-1.153599	Pt	3.585148	1.522735	1.192876
Pt	3.209176	-0.149375	-1.060698	Pt	2.402586	0.649884	3.319396
Pt	0.318697	2.012280	1.267373	Pt	-3.965989	0.185162	0.787856

Atom	Coordinates for Pt ₂₃ Ni ₁₅			Atom	Coordinates for Pt ₂₄ Ni ₁₄		
	X	Y	Z		X	Y	Z
Ni	-0.894743	-0.284237	-4.088819	Ni	-1.519369	-0.533893	-3.753952
Ni	3.529867	1.200134	-1.654629	Ni	-2.724686	1.521994	2.634322
Ni	-2.583115	-1.751180	-2.781809	Ni	1.032234	-2.067103	3.511346
Ni	-3.638610	1.838692	-0.133433	Ni	-3.072016	-1.768493	-2.080134
Ni	1.922550	-3.312362	1.478495	Ni	-0.370328	-4.081296	0.688192
Ni	-1.762457	0.227990	0.352519	Ni	0.348292	-2.291076	-3.393678
Ni	1.758015	-0.103858	-0.425559	Ni	1.306164	2.825931	-2.783287
Ni	-0.757130	-3.477118	-2.126599	Ni	0.357651	4.107999	-0.747808
Ni	0.873909	0.213713	4.046805	Ni	-1.036574	1.978801	-3.489265
Ni	-1.696766	-2.997259	2.234123	Ni	0.655444	0.965568	1.309375
Ni	0.780358	3.480770	2.207959	Ni	-1.195454	-3.517284	-1.695832
Ni	2.584278	1.718658	2.800945	Ni	-1.653988	0.295790	0.697584
Ni	-0.054003	1.509125	-0.887978	Ni	4.062562	0.448802	-0.000171
Ni	0.518536	-2.241812	3.371497	Ni	1.704224	-0.239382	-0.580664
Ni	-0.293120	-4.057512	0.335062	Pt	2.648962	-0.822986	1.832634
Pt	1.360148	0.491778	-2.982096	Pt	0.174439	-1.582288	1.097323
Pt	-1.476876	2.770242	1.062704	Pt	-4.065975	-0.439477	0.004059
Pt	3.655151	-1.800643	0.130661	Pt	3.177729	1.034976	-2.380085
Pt	3.167462	-1.291690	-2.355554	Pt	-0.168145	1.573833	-1.079500
Pt	-3.958980	-0.648936	-0.842851	Pt	-0.301715	2.282240	3.356905
Pt	0.296086	4.056983	-0.336563	Pt	3.041207	1.750651	2.049270
Pt	1.660698	2.971526	-2.213675	Pt	1.216569	3.513186	1.689241
Pt	0.431055	0.967673	1.607593	Pt	0.886903	0.241137	-3.101303
Pt	0.056423	-1.576745	0.927766	Pt	-3.240941	-1.028158	2.374459
Pt	-3.166450	1.263472	2.372162	Pt	2.271864	2.345965	-0.364800
Pt	-3.548485	-1.180162	1.623264	Pt	-1.419751	-2.781360	2.760872
Pt	-0.521518	2.242706	-3.370214	Pt	-2.615602	0.781244	-1.778020
Pt	-2.197658	-2.362459	-0.242215	Pt	3.579764	-2.105936	-0.251697
Pt	-0.431390	-0.958277	-1.613122	Pt	-0.872153	-0.264705	3.188606
Pt	-1.377563	-0.501002	2.912360	Pt	1.236154	-2.853450	-1.006353
Pt	3.959579	0.632123	0.852743	Pt	-3.574278	2.082860	0.224700
Pt	2.311387	-0.815714	2.112271	Pt	-2.063253	3.304414	-1.446865
Pt	-2.325160	0.817984	-2.177361	Pt	-1.213617	2.910104	0.987474
Pt	0.993201	-2.039981	-3.487500	Pt	-0.680877	-1.017330	-1.365589
Pt	1.492571	-2.712880	-1.021292	Pt	2.073592	-3.331107	1.413080
Pt	2.209249	2.421137	0.271443	Pt	2.762626	-1.475417	-2.618796
Pt	-1.884549	3.283955	-1.467089	Pt	1.539315	0.540778	3.748284
Pt	-0.991951	2.005168	3.507986	Pt	-2.286973	-2.305530	0.350073

Atom	Coordinates for Pt ₂₅ Ni ₁₃			Atom	Coordinates for Pt ₂₆ Ni ₁₂		
	X	Y	Z		X	Y	Z
Ni	1.578097	-0.304947	-0.784091	Ni	-2.496738	-1.601818	-2.818746
Ni	0.282100	-1.385818	1.110209	Ni	-1.413460	0.432382	1.024120
Ni	0.166891	3.926780	-1.139058	Ni	-0.178373	3.711250	-1.898459
Ni	-1.577038	0.305425	0.787489	Ni	0.956926	1.312568	0.771428
Ni	-3.254500	-2.039234	-1.631179	Ni	2.618399	-2.805205	1.638341
Ni	3.263265	2.027551	1.625205	Ni	-2.360438	-0.201775	3.336537
Ni	-0.285008	1.388837	-1.104013	Ni	2.496740	1.601817	2.818746
Ni	-2.490529	1.720106	2.750282	Ni	0.178372	-3.711249	1.898460
Ni	2.437950	-1.720439	-2.748093	Ni	1.413460	-0.432382	-1.024120
Ni	-1.899452	-0.929058	-3.582165	Ni	2.360436	0.201776	-3.336539
Ni	-0.167128	-3.934277	1.167316	Ni	-0.956926	-1.312568	-0.771428
Ni	1.926933	0.920647	3.584780	Ni	-2.618398	2.805205	-1.638340
Ni	0.065109	-2.614699	-3.218342	Pt	-3.467269	2.041317	0.771280
Pt	-1.185330	2.946971	0.860650	Pt	3.902431	0.447603	-1.247916
Pt	1.266109	3.725373	1.256631	Pt	0.453232	3.209820	2.561915
Pt	2.810514	-0.566360	1.596777	Pt	-0.453229	-3.209821	-2.561913
Pt	4.039214	0.515842	-0.430120	Pt	1.083956	-3.058671	-0.486004
Pt	-1.044686	-2.470556	3.134774	Pt	3.081851	-0.272457	1.095710
Pt	-2.279842	3.086733	-1.517895	Pt	-1.390683	-3.845202	-0.253399
Pt	2.194000	2.320122	-0.760475	Pt	-0.591561	1.204397	-1.353957
Pt	-0.046883	2.639592	3.179816	Pt	-1.083955	3.058670	0.486005
Pt	-2.962734	-0.842569	2.731963	Pt	1.902060	2.123114	-1.627015
Pt	-0.821262	-1.193961	-1.250592	Pt	1.390683	3.845202	0.253400
Pt	-2.182716	-2.319806	0.753788	Pt	2.091252	-0.937515	3.435747
Pt	-1.246926	-3.703162	-1.218962	Pt	0.082860	0.700021	3.215618
Pt	-4.039146	-0.528193	0.418921	Pt	0.591561	-1.204397	1.353957
Pt	-2.790506	0.546236	-1.602470	Pt	3.467270	-2.041317	-0.771279
Pt	2.277428	-3.096429	1.507763	Pt	-3.081851	0.272457	-1.095711
Pt	2.951317	0.832493	-2.739592	Pt	0.304866	1.827254	-3.691184
Pt	1.041681	2.486224	-3.125775	Pt	-0.082860	-0.700022	-3.215618
Pt	0.836615	1.184155	1.244109	Pt	3.409604	2.267549	0.468425
Pt	-3.583415	1.999256	0.392806	Pt	-3.409604	-2.267549	-0.468427
Pt	3.564604	-2.014431	-0.419250	Pt	-2.091254	0.937514	-3.435748
Pt	-0.535747	0.059692	3.239328	Pt	-1.934437	2.323219	2.816451
Pt	1.163318	-2.939747	-0.843208	Pt	1.934439	-2.323218	-2.816449
Pt	1.381074	-1.686439	3.466913	Pt	-0.304868	-1.827253	3.691183
Pt	0.528783	-0.024224	-3.217601	Pt	-3.902433	-0.447602	1.247914
Pt	-1.382156	1.682319	-3.476637	Pt	-1.902061	-2.123113	1.627014

Atom	Coordinates for Pt ₂₇ Ni ₁₁			Atom	Coordinates for Pt ₂₈ Ni ₁₀		
	X	Y	Z		X	Y	Z
Ni	-3.809300	0.879476	1.181174	Ni	0.884704	1.176172	0.957429
Ni	-2.606154	-3.254029	-0.343206	Ni	-2.272687	2.364493	2.637537
Ni	-1.250924	0.876504	0.938508	Ni	4.159105	0.177311	-0.618823
Ni	0.126034	-1.221193	1.295876	Ni	2.272691	-2.364491	-2.637536
Ni	1.250934	-0.873907	-0.944157	Ni	0.234968	-1.228548	1.289268
Ni	3.803587	-0.886804	-1.175399	Ni	-4.159106	-0.177311	0.618823
Ni	-0.136066	1.224141	-1.313991	Ni	-0.884704	-1.176172	-0.957429
Ni	-1.535613	1.580474	-3.452850	Ni	-0.234968	1.228548	-1.289268
Ni	-1.427817	-2.905642	-2.641411	Ni	0.384443	3.677320	-1.710591
Ni	1.424912	2.913500	2.625882	Ni	-0.384445	-3.677320	1.710590
Ni	2.581498	3.271725	0.298337	Pt	-1.664625	0.566069	0.842785
Pt	-0.203578	-0.653382	-3.213051	Pt	-2.329835	-1.992864	1.183986
Pt	2.374204	-0.546000	-3.327133	Pt	1.583513	3.706617	0.638071
Pt	-0.047130	3.244860	0.474020	Pt	-2.104461	-1.247467	-3.318745
Pt	-1.497980	3.479750	-1.657791	Pt	2.857572	-0.549272	1.558158
Pt	3.949669	1.035163	0.645977	Pt	0.314165	3.027450	2.749280
Pt	-1.377986	-1.024415	-0.846141	Pt	-3.438048	2.360873	0.250105
Pt	-2.801699	1.254608	-1.198582	Pt	-3.386070	-1.982825	-1.194002
Pt	-1.005429	-1.665418	3.636755	Pt	2.104462	1.247464	3.318746
Pt	-1.245520	2.763564	2.745201	Pt	0.430365	-0.568817	-3.222810
Pt	1.466088	-3.461207	1.721182	Pt	1.405271	-1.279510	3.635021
Pt	0.219463	0.653721	3.218677	Pt	-2.928719	-0.195804	2.973334
Pt	2.551765	1.382493	-1.539098	Pt	-0.430364	0.568817	3.222810
Pt	1.233842	-2.774319	-2.739288	Pt	0.952436	-3.109025	-0.477797
Pt	-2.554190	-1.386867	1.526728	Pt	-1.583513	-3.706615	-0.638074
Pt	0.032035	-3.248711	-0.476102	Pt	2.134461	-3.015670	1.849358
Pt	1.380396	1.032887	0.834953	Pt	1.107081	1.913358	-3.490523
Pt	1.595487	-1.556045	3.501445	Pt	2.928719	0.195806	-2.973334
Pt	2.850274	0.695028	2.968078	Pt	3.386068	1.982825	1.194002
Pt	1.064504	1.618836	-3.641694	Pt	-2.134462	3.015669	-1.849357
Pt	2.808478	-1.247277	1.207319	Pt	-1.107083	-1.913358	3.490522
Pt	-1.112362	-3.511953	1.835788	Pt	-0.952435	3.109026	0.477797
Pt	2.599680	-3.142116	-0.592282	Pt	2.329834	1.992865	-1.183988
Pt	-2.821268	-0.674737	-2.947787	Pt	-2.857573	0.549270	-1.558157
Pt	-2.626570	3.136309	0.613531	Pt	-1.405273	1.279507	-3.635020
Pt	-2.360792	0.512079	3.319842	Pt	1.664626	-0.566068	-0.842785
Pt	1.061450	3.487581	-1.875593	Pt	3.438049	-2.360873	-0.250102
Pt	-3.953923	-1.008678	-0.663717	Pt	-0.314160	-3.027450	-2.749281

Atom	Coordinates for Pt ₂₉ Ni ₉			Atom	Coordinates for Pt ₃₀ Ni ₈		
	X	Y	Z		X	Y	Z
Ni	-0.269424	-4.030968	1.151556	Ni	0.150257	-0.511326	-1.702020
Ni	-1.484127	0.743826	-0.606855	Ni	-1.097780	-1.363238	0.312634
Ni	-3.415444	-2.457080	-0.110723	Ni	1.097780	1.363238	-0.312634
Ni	3.409303	2.452292	0.101410	Ni	-0.150257	0.511326	1.702020
Ni	0.268978	4.036213	-1.162494	Ni	-1.798299	3.590570	-1.237446
Ni	-2.340893	1.784892	2.819048	Ni	1.798298	-3.590569	1.237446
Ni	-0.435981	0.517100	1.665139	Ni	4.095434	-0.737957	0.583251
Ni	0.412425	-0.502953	-1.660317	Ni	-4.095434	0.737955	-0.583250
Ni	1.483373	-0.743704	0.604964	Pt	-1.118099	-0.011904	-3.977993
Pt	0.091912	2.662690	3.160527	Pt	-1.742454	2.112777	3.094308
Pt	0.215942	-1.923778	2.668286	Pt	-2.517749	-0.900358	-1.933180
Pt	3.540024	-2.081806	-0.451466	Pt	0.165451	-2.020757	2.603086
Pt	1.376685	3.747918	1.234651	Pt	0.835030	2.478965	3.190438
Pt	2.222863	-3.113857	1.507886	Pt	-3.053096	2.671641	0.929059
Pt	2.247356	2.646884	-2.291261	Pt	1.522106	-1.117878	0.470210
Pt	3.987834	-0.003335	1.004050	Pt	-1.522106	1.117878	-0.470210
Pt	-1.085690	2.988952	0.853063	Pt	-0.484054	3.104968	1.005861
Pt	-2.699863	1.054851	-2.945487	Pt	0.857070	3.881273	-1.090360
Pt	-2.220148	3.127255	-1.478988	Pt	3.707887	1.787551	-0.209683
Pt	-2.966760	-0.326179	1.390041	Pt	1.118099	0.011905	3.977993
Pt	-3.497869	2.059747	0.462949	Pt	-1.455942	-0.365995	3.842879
Pt	1.100815	-2.985744	-0.847227	Pt	-0.835029	-2.478965	-3.190439
Pt	2.972756	0.313300	-1.381599	Pt	-3.707886	-1.787552	0.209683
Pt	-1.366423	-3.721913	-1.259656	Pt	-0.857070	-3.881273	1.090360
Pt	-0.229112	1.927206	-2.673438	Pt	2.836353	-0.183853	-1.675766
Pt	-0.958197	-1.673479	0.273592	Pt	2.731305	-1.576588	2.715981
Pt	2.667941	-1.032372	2.972436	Pt	-2.731306	1.576587	-2.715981
Pt	-3.993753	0.001516	-0.972687	Pt	1.455943	0.365995	-3.842878
Pt	1.750048	0.531742	-3.703614	Pt	2.136715	3.367747	1.089775
Pt	-0.038367	-2.620097	-3.193085	Pt	0.484055	-3.104968	-1.005861
Pt	-2.267295	-2.674103	2.274877	Pt	3.053095	-2.671641	-0.929059
Pt	-1.762368	-0.605228	3.689858	Pt	1.742454	-2.112777	-3.094308
Pt	2.410893	-1.822760	-2.807622	Pt	-2.136715	-3.367747	-1.089776
Pt	-2.106402	-1.381263	-2.137538	Pt	-2.836353	0.183852	1.675766
Pt	2.095934	1.389453	2.131616	Pt	-0.165451	2.020758	-2.603086
Pt	-0.709954	-0.253913	-4.054595	Pt	2.517749	0.900358	1.933180
Pt	0.647589	0.287344	4.042517	Pt	-2.444303	-2.321023	2.394393
Pt	0.945399	1.681352	-0.269817	Pt	2.444303	2.321023	-2.394392

Atom	Coordinates for Pt ₃₁ Ni ₇			Atom	Coordinates for Pt ₃₂ Ni ₆		
	X	Y	Z		X	Y	Z
Ni	0.762467	2.556948	3.246535	Ni	-0.995275	-2.993415	-2.771088
Ni	1.405831	-0.507806	-0.951620	Ni	1.638018	-0.709713	0.178336
Ni	-0.783029	-2.595074	-3.206759	Ni	-0.719180	-1.487165	0.687299
Ni	3.707903	1.532602	1.215564	Ni	0.995276	2.993417	2.771084
Ni	0.240661	-1.430662	1.089184	Ni	0.719180	1.487165	-0.687299
Ni	-1.426597	0.465604	0.986051	Ni	-1.638018	0.709712	-0.178336
Ni	-0.250928	1.394790	-1.048801	Pt	-1.491523	2.173235	3.252249
Pt	-1.976552	-3.563228	-1.031351	Pt	0.175696	-3.821133	1.571369
Pt	0.578681	3.912838	-1.121631	Pt	-4.121112	-0.085686	0.323679
Pt	1.826933	-2.035501	-3.067371	Pt	-0.175701	3.821134	-1.571369
Pt	2.904758	-0.985094	1.235484	Pt	-0.840149	3.079058	0.862223
Pt	-1.848245	1.995827	3.105265	Pt	1.101334	-1.615745	2.681851
Pt	0.097291	-0.098045	-3.286029	Pt	3.510109	-0.760985	2.055338
Pt	1.932694	3.513294	1.050618	Pt	0.495630	0.096037	-4.170163
Pt	-0.112824	0.061394	3.314117	Pt	-1.369948	-2.382064	3.103236
Pt	2.677551	0.400169	-3.097538	Pt	1.491523	-2.173233	-3.252250
Pt	2.456842	0.500694	3.330211	Pt	1.369949	2.382067	-3.103231
Pt	-0.579027	-3.952130	1.157388	Pt	3.264917	-2.174468	-1.317718
Pt	3.179153	-2.482828	-0.916012	Pt	-0.132314	-0.750523	-1.771507
Pt	2.385239	2.000887	-1.023968	Pt	-1.605401	-3.778498	-0.291425
Pt	-3.717921	-1.579595	-1.189932	Pt	0.840148	-3.079058	-0.862225
Pt	-2.403419	-2.057195	1.075338	Pt	-2.628321	-1.576257	-1.239848
Pt	-1.598263	1.906002	-3.275392	Pt	3.162771	2.374657	-1.207898
Pt	-1.149969	-1.081524	-1.122159	Pt	1.974769	0.671377	3.629635
Pt	-0.958812	-2.423917	3.241253	Pt	-2.629161	3.010408	-1.058602
Pt	0.957733	2.382413	-3.197093	Pt	-0.495628	-0.096033	4.170165
Pt	-3.191380	2.447797	0.952776	Pt	0.132314	0.750524	1.771507
Pt	-1.974251	3.412436	-1.175046	Pt	2.388850	0.103536	-2.301862
Pt	-2.499017	-0.560320	-3.303617	Pt	-3.264918	2.174466	1.317719
Pt	1.147512	1.045604	1.160684	Pt	-1.974768	-0.671375	-3.629636
Pt	-2.928879	0.962940	-1.209963	Pt	4.121113	0.085682	-0.323678
Pt	-0.632638	3.049086	1.053369	Pt	-1.101335	1.615746	-2.681850
Pt	-4.043307	-0.016979	0.949955	Pt	-3.162767	-2.374660	1.207900
Pt	4.006934	-0.038687	-0.929732	Pt	2.629157	-3.010409	1.058603
Pt	0.619158	-3.097515	-1.016367	Pt	1.605401	3.778496	0.291420
Pt	1.597553	-1.943246	3.309590	Pt	-2.388848	-0.103536	2.301864
Pt	1.970990	-3.441353	1.209675	Pt	2.628322	1.576256	1.239847
Pt	-2.688932	-0.440085	3.138003	Pt	-3.510110	0.760983	-2.055337

Atom	Coordinates for Pt ₃₃ Ni ₅			Atom	Coordinates for Pt ₃₄ Ni ₄		
	X	Y	Z		X	Y	Z
Ni	-0.085894	-2.871326	-3.060788	Ni	-0.331610	0.692467	1.630856
Ni	0.814087	1.553029	-0.395747	Ni	0.331610	-0.692466	-1.630856
Ni	-1.562029	0.669222	-0.587686	Ni	1.522958	-0.736482	0.622383
Ni	1.563396	-0.671061	0.581926	Ni	-1.522958	0.736482	-0.622383
Ni	-0.813620	-1.548131	0.400110	Pt	-2.794967	0.807670	-2.947865
Pt	-1.601493	-0.355796	3.871781	Pt	2.235497	2.394364	-2.636900
Pt	-0.894391	-0.539421	-4.053790	Pt	1.607825	0.098826	-3.817371
Pt	3.274986	2.522456	-0.212340	Pt	-1.607824	-0.098821	3.817373
Pt	-2.048257	-2.590440	2.504890	Pt	-2.235497	-2.394360	2.636905
Pt	-2.917963	-0.297761	1.565611	Pt	2.938539	0.073394	-1.552250
Pt	1.172094	-3.003073	-0.735877	Pt	2.210893	-3.041156	1.740836
Pt	2.148457	1.589519	1.975775	Pt	-2.210897	3.041155	-1.740837
Pt	2.047383	2.583129	-2.510936	Pt	3.472934	-2.223404	-0.386379
Pt	-4.049921	-0.225190	-0.807557	Pt	-0.242196	-2.950524	-2.898785
Pt	-2.127939	-1.587911	-1.970832	Pt	-0.300450	1.639726	-2.875919
Pt	0.381050	-0.655749	-1.769675	Pt	-3.476174	-2.348526	0.290365
Pt	3.590585	-2.009102	-0.484966	Pt	2.239213	-2.177820	-2.719762
Pt	2.378701	-2.981993	1.598194	Pt	-0.874435	-0.672102	-3.992208
Pt	0.412068	-1.725787	2.811791	Pt	0.304135	3.882480	-1.586672
Pt	-0.411673	1.720636	-2.807292	Pt	-0.304140	-3.882479	1.586671
Pt	1.308783	3.827007	0.888131	Pt	4.060917	0.008189	0.822248
Pt	-0.382238	0.647779	1.763718	Pt	1.544816	3.836641	0.759865
Pt	-3.269298	-2.528104	0.201847	Pt	0.961423	1.584691	-0.477374
Pt	-0.082408	-3.894747	1.394461	Pt	2.233280	1.546114	1.916212
Pt	0.095104	2.888905	3.056323	Pt	-1.544815	-3.836642	-0.759869
Pt	-1.184325	3.018724	0.728566	Pt	-0.961423	-1.584691	0.477374
Pt	0.081772	3.891808	-1.407319	Pt	1.005708	-3.112446	-0.592545
Pt	2.398957	-1.951714	-2.821337	Pt	-2.938538	-0.073394	1.552252
Pt	2.855571	-0.768994	2.894733	Pt	-1.005709	3.112446	0.592543
Pt	-1.305272	-3.806815	-0.874378	Pt	3.476177	2.348523	-0.290362
Pt	-2.387385	2.975639	-1.608531	Pt	0.300449	-1.639725	2.875920
Pt	1.592360	0.333255	-3.873204	Pt	-2.233279	-1.546116	-1.916213
Pt	-3.592784	1.996269	0.481601	Pt	-3.472936	2.223401	0.386379
Pt	2.911882	0.295389	-1.563535	Pt	-2.239213	2.177823	2.719761
Pt	-2.387222	1.966094	2.849764	Pt	0.242198	2.950525	2.898781
Pt	0.881647	0.564297	4.073054	Pt	0.874437	0.672104	3.992208
Pt	-2.860857	0.757485	-2.899259	Pt	-4.060915	-0.008194	-0.822246
Pt	4.056085	0.212473	0.802774	Pt	2.794967	-0.807673	2.947866

Atom	Coordinates for Pt ₃₅ Ni ₃			Atom	Coordinates for Pt ₃₆ Ni ₂		
	X	Y	Z		X	Y	Z
Ni	0.463160	-0.703075	-1.610470	Ni	-0.313443	0.630651	1.688023
Ni	0.779124	1.560930	-0.478560	Ni	0.313443	-0.630651	-1.688023
Ni	-0.446917	0.735619	1.600492	Pt	-0.282957	-3.947105	1.422112
Pt	4.074468	0.445292	0.955304	Pt	-2.293317	-1.480738	-1.981566
Pt	2.021238	1.821257	1.934092	Pt	0.282961	3.947106	-1.422110
Pt	0.673140	0.901893	3.993214	Pt	-0.952818	-1.601026	0.421224
Pt	-0.131361	3.072902	2.792888	Pt	-3.471330	-2.361254	0.237594
Pt	0.005428	3.786171	-1.694882	Pt	-1.553691	-3.801478	-0.907401
Pt	2.984627	0.298285	-1.464964	Pt	-1.016877	3.127182	0.751791
Pt	2.461194	-2.793418	1.949183	Pt	1.557620	0.264107	-3.839064
Pt	-2.449627	2.809987	-1.953327	Pt	-2.204767	2.061915	2.849886
Pt	-2.085766	-2.491893	2.652512	Pt	1.016877	-3.127182	-0.751791
Pt	3.196854	2.629421	-0.272052	Pt	3.471330	2.361254	-0.237592
Pt	2.062241	2.476103	-2.612581	Pt	0.282986	2.828679	3.025365
Pt	2.534449	-2.040552	-2.573908	Pt	-1.622826	0.807171	-0.602899
Pt	-0.358469	1.510009	-2.955413	Pt	0.930133	0.502659	4.014541
Pt	0.141428	-3.049026	-2.796061	Pt	-0.349786	1.784990	-2.840767
Pt	-2.034168	-1.825016	-1.956606	Pt	-2.960408	-0.138545	1.610990
Pt	3.738229	-1.917540	-0.209229	Pt	1.553690	3.801476	0.907406
Pt	-2.787371	0.447699	-3.118529	Pt	-1.557620	-0.264105	3.839063
Pt	0.010855	-3.827194	1.717877	Pt	1.622826	-0.807171	0.602899
Pt	-2.524326	2.060831	2.567690	Pt	-0.930133	-0.502660	-4.014539
Pt	-3.728932	1.936165	0.203519	Pt	2.873008	-0.940516	2.924008
Pt	1.138499	3.936399	0.646593	Pt	3.518021	-2.238292	-0.549669
Pt	-1.718003	-0.109551	3.764438	Pt	-2.198704	-2.503700	2.566271
Pt	2.796666	-0.429073	3.112820	Pt	2.198706	2.503701	-2.566270
Pt	-0.663020	-0.881612	-3.999431	Pt	-0.282990	-2.828682	-3.025363
Pt	-0.815901	-1.634612	0.501150	Pt	0.349788	-1.784989	2.840767
Pt	1.661226	-0.594882	0.737379	Pt	-3.518022	2.238293	0.549663
Pt	-1.321857	3.032979	0.443644	Pt	-2.261123	3.162978	-1.601561
Pt	0.368938	-1.511179	2.979438	Pt	-4.133129	0.017435	-0.773982
Pt	-3.006642	-0.287683	1.474507	Pt	2.204763	-2.061914	-2.849890
Pt	1.730136	0.130156	-3.774903	Pt	2.261127	-3.162976	1.601559
Pt	-3.242825	-2.647881	0.267293	Pt	-2.873006	0.940516	-2.924008
Pt	-1.144534	-3.979836	-0.668369	Pt	0.952818	1.601026	-0.421223
Pt	-4.068486	-0.426702	-0.961936	Pt	2.960406	0.138546	-1.610991
Pt	1.341412	-3.048513	-0.451675	Pt	2.293317	1.480737	1.981568
Pt	-1.655107	0.607140	-0.741137	Pt	4.133128	-0.017437	0.773980

Atom	Coordinates for Pt ₃₇ Ni ₁			Atom	Coordinates for Pt ₃₈		
	X	Y	Z		X	Y	Z
Ni	-1.572268	0.739394	-0.584330	Pt	1.613617	-0.521865	-0.916540
Pt	3.407152	2.454205	-0.193210	Pt	-1.613618	0.521866	0.916540
Pt	0.187195	2.860159	3.084293	Pt	-1.027566	-1.155412	-1.151209
Pt	-2.983344	-0.226375	1.593357	Pt	-0.237692	1.452181	-1.245321
Pt	2.147297	2.589798	-2.531892	Pt	1.027566	1.155412	1.151209
Pt	-2.251371	-1.527208	-2.022212	Pt	0.237691	-1.452181	1.245321
Pt	2.309070	-2.006454	-2.882963	Pt	2.949445	-0.838702	1.516268
Pt	-1.110294	3.108105	0.772856	Pt	-2.949445	0.838701	-1.516269
Pt	0.346183	-0.632327	-1.779478	Pt	2.462409	2.136856	-1.035426
Pt	0.369063	-1.815099	2.859473	Pt	0.843936	-3.206171	-0.842588
Pt	1.106509	-3.125657	-0.783125	Pt	-2.462410	-2.136855	1.035426
Pt	-0.378321	1.807272	-2.842713	Pt	-0.843935	3.206172	0.842589
Pt	3.576908	-2.142493	-0.541585	Pt	0.356900	-0.230614	-3.394283
Pt	-0.932429	-1.630493	0.397859	Pt	-0.356899	0.230614	3.394283
Pt	-0.204242	-2.852142	-3.090629	Pt	-3.386746	2.439565	0.574530
Pt	2.872373	-0.890424	2.938448	Pt	4.158781	0.109133	-0.666517
Pt	-0.919421	-0.488965	-4.085995	Pt	-2.150067	2.149499	2.916930
Pt	0.179591	3.975473	-1.393964	Pt	2.922101	0.399200	-3.008917
Pt	2.256116	1.544308	2.032838	Pt	3.585937	1.748610	1.354634
Pt	1.597059	0.354607	-3.879700	Pt	-4.158781	-0.109132	0.666516
Pt	2.323223	-3.121198	1.593303	Pt	-2.041829	3.348914	-1.538611
Pt	-0.372360	0.644637	1.769750	Pt	-1.776443	-3.678070	-1.033279
Pt	-2.308718	3.074520	-1.573572	Pt	-0.539700	-3.968151	1.309242
Pt	-3.537772	2.115043	0.519371	Pt	-2.922102	-0.399198	3.008916
Pt	-2.847079	0.887574	-2.892289	Pt	2.241089	0.839306	3.467665
Pt	-2.329401	2.016795	2.878576	Pt	2.150068	-2.149498	-2.916930
Pt	2.993562	0.233750	-1.609760	Pt	3.386747	-2.439564	-0.574530
Pt	0.906253	1.642803	-0.407587	Pt	-1.469015	1.709520	-3.559657
Pt	-1.614106	-0.346591	3.873364	Pt	-3.585937	-1.748611	-1.354634
Pt	-3.428413	-2.447643	0.186545	Pt	-0.431593	-2.768768	-3.146311
Pt	-4.076133	-0.071903	-0.799345	Pt	1.112513	2.328759	-3.330288
Pt	-2.164344	-2.581781	2.525557	Pt	-1.112515	-2.328758	3.330288
Pt	-1.460409	-3.832785	-0.951515	Pt	1.469014	-1.709522	3.559656
Pt	-0.197799	-3.963474	1.385960	Pt	2.041829	-3.348915	1.538610
Pt	0.900283	0.497185	4.075713	Pt	-2.241088	-0.839309	-3.467666
Pt	1.640967	-0.771701	0.609862	Pt	0.431595	2.768767	3.146311
Pt	1.443362	3.840802	0.945179	Pt	1.776443	3.678071	1.033280
Pt	4.126058	0.088282	0.803560	Pt	0.539699	3.968152	-1.309242

Atom	Coordinates for Ni ₃₈		
	X	Y	Z
Ni	0.324368	-0.576453	-1.602207
Ni	-0.324368	0.576453	1.602207
Ni	1.486750	-0.699177	0.552548
Ni	-0.830026	-1.477646	0.363598
Ni	-1.486750	0.699177	-0.552548
Ni	0.830026	1.477646	-0.363598
Ni	-2.017369	-1.371896	-1.813597
Ni	-0.336520	1.620419	-2.549903
Ni	0.336520	-1.620419	2.549903
Ni	2.017369	1.371896	1.813597
Ni	0.993383	-2.787768	-0.694657
Ni	-2.674231	-0.204547	1.430963
Ni	2.674231	0.204547	-1.430963
Ni	-0.993383	2.787768	0.694657
Ni	-0.843856	-0.461785	-3.803035
Ni	0.843856	0.461784	3.803035
Ni	-1.494904	-0.324072	3.612292
Ni	1.494904	0.324072	-3.612292
Ni	2.157859	-1.873407	-2.687454
Ni	0.180901	2.659263	2.878196
Ni	-0.180901	-2.659263	-2.878196
Ni	-2.157859	1.873407	2.687454
Ni	-2.008649	-2.411023	2.353872
Ni	2.008649	2.411024	-2.353872
Ni	2.683941	-0.834248	2.736588
Ni	-2.683941	0.834247	-2.736588
Ni	1.353758	3.574869	0.880949
Ni	-1.353758	-3.574869	-0.880949
Ni	3.338833	-1.998094	-0.498236
Ni	2.173485	-2.907838	1.486224
Ni	-2.173485	2.907838	-1.486224
Ni	-3.849289	-0.075496	-0.752128
Ni	3.849289	0.075496	0.752128
Ni	-3.338833	1.998094	0.498236
Ni	-0.180344	-3.698758	1.294253
Ni	0.180344	3.698758	-1.294253
Ni	-3.182062	-2.287134	0.178670
Ni	3.182062	2.287134	-0.178670

Table S2 The coordinates for all optimized structures of (PtNi)₅₅ clusters

Atom	Coordinates for Pt ₁ Ni ₅₄			Atom	Coordinates for Pt ₂ Ni ₅₃		
	X	Y	Z		X	Y	Z
Ni	-0.642835	4.463089	-1.658571	Ni	3.345272	-1.384720	-1.996414
Ni	-2.716665	0.730864	3.011378	Ni	0.977143	2.730435	-2.941975
Ni	-3.992136	-0.196274	1.011491	Ni	2.257442	-0.687183	0.092525
Ni	0.662207	-4.473246	1.678508	Ni	0.997988	-0.662464	-2.037039
Ni	-0.000907	-0.003179	-0.000050	Ni	-1.319500	2.410105	-3.943508
Ni	-1.386271	-3.128140	2.328129	Ni	4.597018	-1.396228	0.191427
Ni	2.003236	-3.144554	-3.024670	Ni	2.030172	-1.346738	-4.147718
Ni	3.742995	1.062389	1.376805	Ni	0.000100	-0.000024	-0.000387
Ni	-0.405582	1.386686	3.865870	Ni	3.246046	3.000589	-1.877002
Ni	3.167370	2.579733	-0.586568	Ni	2.816597	2.330193	3.106354
Ni	-3.292622	2.255533	1.050503	Ni	-1.080029	3.588568	-1.722603
Ni	-1.999253	3.151609	3.022763	Ni	-3.731946	-0.474109	-1.666796
Ni	-2.607064	2.917617	-1.313392	Ni	-0.395192	-1.862780	-3.665189
Ni	1.416803	1.669450	0.875202	Ni	-0.435583	2.306162	0.282836
Ni	0.315807	-2.198179	0.816160	Ni	0.390443	1.861631	3.669120
Ni	1.385376	3.116018	-2.324324	Ni	1.381972	1.145979	1.525846
Ni	2.887238	3.400725	1.783868	Ni	-3.238826	-3.001930	1.873733
Ni	-2.908890	-3.398534	-1.803931	Ni	-2.769027	3.117544	0.117224
Ni	-1.421360	-1.675384	-0.877879	Ni	3.008795	-1.938709	2.069971
Ni	3.295810	-2.243471	-1.050365	Ni	3.958407	0.812091	-0.848672
Ni	3.386662	1.709512	-2.945307	Ni	0.671520	-1.205332	1.915139
Ni	0.976692	-1.554192	-1.481193	Ni	-3.061562	-2.690039	-0.621227
Ni	2.718505	-0.724423	-3.011273	Ni	-0.951404	-2.752526	2.918151
Ni	-3.386337	-1.701473	2.947458	Ni	1.592171	1.471210	-0.924188
Ni	-0.925942	2.467490	-3.176223	Ni	-2.666104	-0.829822	3.046940
Ni	2.614856	-2.903614	1.315379	Ni	-0.981477	0.639751	2.054185
Ni	1.334667	-3.856683	-0.686915	Ni	-2.815290	-2.336745	-3.110828
Ni	0.587393	-0.198979	2.273598	Ni	-0.317476	-0.581702	4.075999
Ni	1.196597	-0.404894	4.633290	Ni	-1.379549	-1.145550	-1.529101
Ni	-2.059488	-1.496883	-3.242918	Ni	2.666816	0.833484	-3.041896
Ni	0.448051	3.307839	2.426678	Ni	0.358404	0.536575	-4.081840
Ni	-1.105396	-1.065032	3.826565	Ni	-4.600411	1.410114	-0.208883
Ni	-1.662191	-0.847620	1.442925	Ni	-2.254914	0.704143	-0.087501
Ni	0.932139	-2.453060	3.179981	Ni	0.952988	3.546298	1.873665
Ni	-2.218761	0.645525	-0.462891	Ni	1.362011	-2.449801	3.906380
Ni	1.108757	1.077047	-3.826614	Ni	-0.648255	1.183393	-1.934531
Ni	2.890949	-0.858712	2.816444	Ni	2.749081	-3.077703	-0.191591
Ni	2.061874	1.512514	3.239637	Ni	-2.983641	1.912334	-2.110097

Ni	4.526887	-1.296590	0.943030	Ni	0.847004	-4.698316	-0.571913
Ni	-0.315093	2.190658	-0.813698	Ni	-3.953514	-0.774140	0.874915
Ni	2.221344	-0.636475	0.463034	Ni	-1.207420	-3.888785	0.656456
Ni	-3.742207	-1.046328	-1.378317	Ni	0.417761	-2.307120	-0.281954
Ni	1.133099	3.970090	0.063258	Ni	2.110163	-0.056654	3.541352
Ni	-0.981384	1.545802	1.483416	Ni	3.744202	0.471383	1.664391
Ni	0.409072	-1.374716	-3.865438	Ni	-2.086003	0.033168	-3.565500
Ni	-0.584809	0.208028	-2.273455	Ni	1.112047	-3.608896	1.683876
Ni	-1.191078	0.424214	-4.632983	Ni	-1.997095	1.287562	4.241221
Ni	-1.333944	3.844125	0.688922	Ni	-0.996149	-3.550662	-1.857205
Ni	1.661769	0.838089	-1.445432	Ni	-0.856213	4.707083	0.553274
Ni	-4.521371	1.315914	-0.942724	Ni	-1.592103	-1.472853	0.920454
Ni	-3.174598	-2.589947	0.584200	Ni	3.055468	2.696334	0.623935
Ni	-0.453659	-3.318491	-2.430844	Ni	1.452319	-3.051567	-2.381737
Ni	3.995795	0.208203	-1.011248	Ni	1.209364	3.876982	-0.660959
Ni	-2.885001	0.879544	-2.816114	Pt	-1.591992	3.105154	2.448260
Pt	-1.167107	-4.089231	-0.065154	Pt	-3.398039	1.514833	2.080627

Atom	Coordinates for Pt ₃ Ni ₅₂			Atom	Coordinates for Pt ₄ Ni ₅₁		
	X	Y	Z		X	Y	Z
Ni	-0.724111	-3.451220	-2.141382	Ni	3.516570	2.187518	0.120088
Ni	-3.038843	1.885118	-2.057313	Ni	0.113169	3.838010	-1.525612
Ni	2.584646	2.263297	3.371072	Ni	-3.156440	2.561634	0.699000
Ni	-1.382799	2.685390	-3.791268	Ni	0.194501	-0.400024	2.317936
Ni	-2.687783	-1.202502	2.903326	Ni	1.156794	2.283504	-3.254629
Ni	-2.872436	-2.813515	-0.882569	Ni	2.425747	-3.938609	1.283778
Ni	0.559263	-2.251607	-0.412998	Ni	2.389868	-0.073637	3.374384
Ni	-0.993417	-3.986566	0.370186	Ni	0.508294	3.855462	2.832827
Ni	3.924921	1.096716	-0.639398	Ni	-3.410841	1.632688	-1.629634
Ni	-2.285599	0.560964	-0.120131	Ni	0.389429	-0.824470	4.716076
Ni	-0.428446	-0.852675	4.026878	Ni	-3.807989	1.225705	2.733675
Ni	0.670489	-1.281960	1.871916	Ni	-2.124184	-0.352101	-0.972876
Ni	0.733918	3.458899	2.144033	Ni	-1.273997	-1.785954	0.879200
Ni	3.657864	0.568141	1.843025	Ni	3.815750	-1.163491	-2.692391
Ni	3.113628	3.309912	-1.541729	Ni	-1.743186	0.163290	3.736975
Ni	3.041406	-1.896658	2.062045	Ni	2.625746	3.650311	-1.732670
Ni	-1.270485	-1.112544	-1.656876	Ni	-1.382076	2.438760	-3.033087
Ni	4.660071	-1.140316	0.283493	Ni	-0.329572	0.874309	-4.718294
Ni	2.286582	-0.942341	-4.169017	Ni	2.447934	2.290839	2.427123
Ni	2.927176	-2.892593	-0.284911	Ni	1.685061	-2.521250	-2.791949
Ni	-1.523592	-1.622380	0.780729	Ni	0.941781	-3.939637	-0.784558
Ni	-2.924124	2.892291	0.317457	Ni	-0.963692	3.937238	0.777073
Ni	1.993786	-0.176794	3.622144	Ni	3.254392	1.256471	-2.232405
Ni	0.884320	2.979808	-2.712839	Ni	4.116625	-0.244731	-0.364444
Ni	-1.258651	3.638922	-1.455928	Ni	2.136268	0.339082	0.965886
Ni	2.876684	2.813457	0.924384	Ni	3.144905	-2.581556	-0.713319
Ni	-0.554988	2.250413	0.436595	Ni	-1.140250	-2.242298	3.277820
Ni	0.000359	0.000119	0.002347	Ni	3.415357	-1.643101	1.644823
Ni	-2.213608	0.924428	4.172818	Ni	-2.338510	0.117143	-3.388077
Ni	1.264165	-3.633915	1.497294	Ni	1.763269	-0.144599	-3.742066
Ni	1.268903	1.110691	1.659307	Ni	-1.178947	1.938794	-0.636566
Ni	2.677445	1.207036	-2.897434	Ni	0.256608	1.895104	1.388993
Ni	-4.654311	1.142404	-0.243775	Ni	-0.094598	-3.837988	1.514935
Ni	-1.691187	2.782215	2.549246	Ni	0.005466	0.003014	-0.000874
Ni	-3.920733	-1.092478	0.671541	Ni	1.877369	-0.566103	-1.323640
Ni	2.286830	-0.559148	0.144041	Ni	-0.482284	-3.840639	-2.863546
Ni	1.139028	-4.585176	-0.840176	Ni	-0.156750	0.429762	-2.316261
Ni	-3.466853	1.043403	1.984333	Ni	-2.405385	3.945842	-1.292520
Ni	-2.633469	-2.315196	-3.346920	Ni	-2.433169	-2.270691	-2.492456
Ni	1.088164	-0.454404	-2.050986	Ni	-4.335478	-0.689071	-2.037638

Ni	-0.670920	1.284712	-1.869895	Ni	1.579898	3.788993	0.555294
Ni	3.476084	-1.042071	-1.943351	Ni	4.341477	0.684237	1.969588
Ni	1.364936	-2.613496	3.804421	Ni	1.294537	1.794653	-0.851460
Ni	1.528906	1.625336	-0.757500	Ni	1.194174	-1.934123	0.627008
Ni	-1.085214	0.453815	2.052659	Ni	1.414198	-2.408880	3.028234
Ni	-1.132872	4.586874	0.879853	Ni	-0.243717	-1.886145	-1.400229
Ni	0.187282	1.609205	3.808116	Ni	-0.394712	-1.490127	-3.827799
Ni	1.680182	-2.780344	-2.543118	Ni	-1.868645	0.578160	1.325784
Ni	-3.650012	-0.558531	-1.840172	Ni	-2.588531	-3.717514	1.838281
Ni	-0.879138	-2.990618	2.717133	Ni	-1.650331	2.545241	2.787687
Ni	-3.107337	-3.307676	1.581358	Ni	0.448737	1.529078	3.813509
Ni	1.000938	3.987511	-0.338386	Pt	-4.247152	0.148002	0.407835
Pt	-2.000413	0.163742	-3.787678	Pt	-3.403574	-1.290701	2.256561
Pt	-0.217367	-1.599064	-3.971236	Pt	-3.605669	-2.291597	-0.101354
Pt	0.390365	0.830847	-4.187156	Pt	-1.694241	-3.853807	-0.580019

Atom	Coordinates for Pt ₅ Ni ₅₀			Atom	Coordinates for Pt ₆ Ni ₄₉		
	X	Y	Z		X	Y	Z
Ni	-3.374776	-0.640831	-2.298010	Ni	1.365033	-0.317166	-1.905135
Ni	-0.000388	-0.002850	-0.001451	Ni	-2.249988	0.620435	-0.386702
Ni	-3.576101	1.765979	1.079711	Ni	-2.765008	0.681168	3.886795
Ni	-0.713871	4.788542	-0.350361	Ni	0.377075	-1.427875	1.839545
Ni	2.163547	-0.734179	0.611645	Ni	1.465283	-0.472555	3.831635
Ni	1.364249	0.454538	3.864957	Ni	-1.016088	3.777227	-1.345982
Ni	-1.129178	-1.340714	-1.589548	Ni	-1.294653	-3.178062	2.309784
Ni	0.648625	-4.764746	0.304659	Ni	2.688726	-2.099382	2.305119
Ni	-1.370668	-0.460809	-3.872808	Ni	-1.359129	0.337812	1.909912
Ni	-4.389980	1.450226	-1.308752	Ni	-3.998118	-1.070409	0.019869
Ni	3.697028	2.695121	-1.635936	Ni	-3.081493	-1.335902	2.404485
Ni	-1.662773	-2.245619	3.043235	Ni	2.927720	-2.895475	-0.123926
Ni	1.345128	-0.995496	-1.682285	Ni	-3.394903	-0.371857	-2.332596
Ni	3.591908	-1.847591	-1.078194	Ni	0.779223	-2.907218	3.744332
Ni	-2.434169	1.646392	-2.894786	Ni	0.577764	-2.236156	-0.509159
Ni	1.671615	2.219324	-3.062186	Ni	0.974421	-3.772876	1.359781
Ni	-0.206435	0.880030	-2.178594	Ni	1.039722	0.970157	1.890687
Ni	-0.352991	2.338284	-0.137893	Ni	1.244819	-4.568460	-1.025776
Ni	-0.568441	3.296332	-2.395214	Ni	-3.394146	-3.353408	0.918139
Ni	1.192902	-0.095835	-3.956630	Ni	3.391393	0.376472	2.336957
Ni	-1.822814	-1.286946	0.785234	Ni	2.773252	2.680189	1.502257
Ni	-0.425755	1.804412	-4.430150	Ni	-0.804042	2.939838	-3.713489
Ni	-1.143200	0.103214	3.967860	Ni	-2.717851	2.118746	-2.275079
Ni	0.202044	-2.387907	-3.362380	Ni	2.114442	1.966407	3.847349
Ni	1.675269	-3.438108	-1.581177	Ni	-1.479186	0.509747	-3.808201
Ni	-3.240099	-0.319651	2.535949	Ni	-0.329234	1.334235	3.904659
Ni	-1.544488	-3.721312	0.965014	Ni	-3.706629	0.979565	1.559945
Ni	1.128851	1.335152	1.592272	Ni	0.296932	-1.342525	-3.883316
Ni	-2.763422	1.975347	3.467610	Ni	1.995553	-2.622656	-2.479852
Ni	1.808071	1.296819	-0.798635	Ni	-1.651851	-1.651965	0.424507
Ni	-4.090790	-0.583248	0.150194	Ni	2.254133	-0.601695	0.398553
Ni	4.396680	-1.499955	1.284993	Ni	2.746088	-0.676590	-3.933681
Ni	-2.573535	3.139538	-0.786731	Ni	0.460696	3.286402	2.473743
Ni	2.358903	2.695511	3.258035	Ni	-1.210296	4.543372	1.053275
Ni	3.401288	0.612739	2.235429	Ni	1.061695	3.990420	0.105497
Ni	-1.333242	0.989594	1.691426	Ni	-0.001751	0.002302	0.002176
Ni	0.204403	-0.906101	2.165908	Ni	-1.060353	-0.967230	-1.882051
Ni	2.422369	-1.670521	2.876082	Ni	-4.573031	1.264794	-0.792087
Ni	0.536740	-3.335790	2.384360	Ni	4.599802	-1.280576	0.862458
Ni	-0.839225	-3.779060	-1.481244	Ni	-2.006082	2.636492	2.492938

Ni	-2.158164	0.711754	-0.641288	Ni	1.647971	1.657064	-0.419686
Ni	1.496569	3.735159	-0.942726	Ni	-1.000832	-1.126489	3.852390
Ni	0.421856	-1.841371	4.413115	Ni	-2.917861	2.933258	0.130474
Ni	2.531169	-3.164884	0.820635	Ni	3.334265	3.432107	-0.843728
Ni	-3.711823	-2.614433	1.604501	Ni	-2.159912	-1.926048	-3.894484
Ni	0.319529	-2.341822	0.146052	Ni	-0.392209	1.447766	-1.820737
Ni	3.030189	2.688451	0.810547	Ni	1.300164	3.170819	-2.316633
Ni	-2.300912	-2.719430	-3.239185	Ni	-0.596389	2.232226	0.520190
Ni	2.712095	-2.037442	-3.434930	Ni	1.012285	1.161847	-3.828640
Ni	-3.039341	-2.689215	-0.825188	Pt	4.152881	1.083358	-0.104044
Pt	-0.226313	2.533974	3.447465	Pt	-1.162838	-4.123814	-0.164364
Pt	4.212863	0.561121	-0.273935	Pt	3.251615	1.378638	-2.431339
Pt	-1.715436	3.551324	1.694957	Pt	-2.814545	-2.842266	-1.559093
Pt	3.401255	0.296914	-2.553173	Pt	3.864209	-0.914668	-1.604094
Pt	0.773185	3.900074	1.591546	Pt	-0.558742	-3.429542	-2.503576

Atom	Coordinates for Pt ₇ Ni ₄₈			Atom	Coordinates for Pt ₈ Ni ₄₇		
	X	Y	Z		X	Y	Z
Ni	0.093637	-0.522070	4.789925	Ni	-0.571207	4.286706	-2.155037
Ni	-0.426698	2.167684	-0.851861	Ni	-0.002114	0.000953	-0.003631
Ni	-2.651957	2.546290	-1.861462	Ni	-3.477412	-1.364107	3.107482
Ni	-0.938270	4.424600	-1.748553	Ni	-0.958192	1.723534	1.320883
Ni	0.005119	-0.004746	-0.002855	Ni	-2.218141	0.634073	-0.528176
Ni	-1.821641	-3.689867	-2.491749	Ni	0.534145	-4.315698	2.148314
Ni	1.841126	3.677668	2.561247	Ni	1.924584	-3.502298	-2.766134
Ni	-3.694685	-2.390911	2.041052	Ni	-2.905992	0.617194	-2.893419
Ni	-0.963771	-1.631331	-3.671294	Ni	-2.961928	-3.514145	-1.430784
Ni	0.534188	-2.497034	3.255580	Ni	1.406477	2.835816	-2.738743
Ni	2.048085	-3.587280	-0.416765	Ni	-1.949973	3.558629	2.661898
Ni	3.765531	2.300751	-2.039437	Ni	-0.932502	2.123552	-3.436836
Ni	0.037336	-0.259155	2.349013	Ni	0.283655	-2.113407	1.032724
Ni	0.662693	-3.216931	-2.525276	Ni	-1.184351	-3.948997	0.333951
Ni	-0.074834	0.461611	-4.786131	Ni	2.886728	-0.657523	2.863404
Ni	-3.142518	2.778918	2.505187	Ni	0.890020	-2.148024	3.418035
Ni	-4.336264	0.672634	-2.066441	Ni	3.769481	1.156555	1.227340
Ni	4.321134	-0.703153	1.993727	Ni	-4.005640	0.000731	1.051001
Ni	-1.537977	1.324000	1.207883	Ni	-1.217267	3.937484	0.255783
Ni	0.927690	1.585939	3.687637	Ni	-1.238069	-0.057210	-4.662183
Ni	0.929129	-4.425969	1.674058	Ni	2.701208	-1.100080	-2.924367
Ni	-2.204411	0.572201	-3.433926	Ni	-1.690364	-0.642351	1.534897
Ni	3.449712	-0.193659	-2.272493	Ni	1.244687	0.019644	4.690447
Ni	-1.384441	-3.430298	1.842528	Ni	0.576374	0.014295	2.297420
Ni	4.054001	0.844313	0.002819	Ni	0.338748	-1.786983	-3.716653
Ni	-3.121033	-1.525417	-2.243969	Ni	-3.777459	-1.121859	-1.256809
Ni	-0.893209	-1.818506	-1.223060	Ni	0.950780	-1.720685	-1.330873
Ni	1.832597	1.147449	-0.987272	Ni	3.399146	1.341238	-3.150804
Ni	3.131014	-2.686298	-2.500821	Ni	-0.608532	-0.024644	-2.291754
Ni	0.909552	1.807339	1.225717	Ni	2.069339	1.792308	3.098386
Ni	2.652960	-2.590017	1.850577	Ni	-3.257691	2.411258	0.832377
Ni	-1.818005	-1.149260	0.998952	Ni	-4.511404	1.289484	-1.070834
Ni	1.540086	-1.324112	-1.229176	Ni	1.447674	1.728675	0.714800
Ni	-0.648895	3.204451	2.517064	Ni	-3.217919	-2.445521	0.838089
Ni	3.766442	-1.706418	-0.257049	Ni	-2.120393	-1.803394	-3.071847
Ni	-2.124919	0.322366	-0.986184	Ni	2.984803	3.535745	1.500770
Ni	-0.465153	2.471917	-3.281415	Ni	-0.264244	2.107753	-1.060832
Ni	1.541139	-1.120375	-3.679970	Ni	-1.447851	-2.805062	2.656500
Ni	-0.452117	-4.098136	-0.417720	Ni	1.667709	0.673674	-1.546359
Ni	2.127488	-0.348904	0.975042	Ni	4.563424	-1.247228	1.063264

Ni	2.231382	-0.605645	3.413064	Ni	-0.505789	-3.553870	-2.068258
Ni	0.458998	-2.176530	0.821026	Ni	3.993066	0.044616	-1.054590
Ni	-2.029268	3.578737	0.377486	Ni	-1.453719	-1.728110	-0.707235
Ni	-2.805451	-3.023238	-0.243064	Ni	-2.563483	2.807469	-1.610172
Ni	-0.028772	0.225430	-2.353087	Ni	2.222047	-0.636615	0.505027
Ni	1.835442	1.434083	-3.422836	Ni	1.089758	0.623344	-3.944407
Ni	-1.813031	-1.490761	3.443648	Ni	0.516753	3.547012	2.074458
Ni	3.112112	1.516423	2.255603	Pt	1.331645	4.031014	-0.417223
Pt	-1.658448	1.078273	3.757607	Pt	1.391992	-4.046885	-0.286382
Pt	-3.926480	1.678431	0.291632	Pt	3.346570	-2.553573	-0.811676
Pt	1.502365	3.558672	-1.869908	Pt	-0.456202	1.803361	3.858868
Pt	-4.202420	-0.787608	0.077568	Pt	3.245842	2.606937	-0.900648
Pt	2.850358	3.196625	0.220218	Pt	-2.750638	1.127037	3.095102
Pt	0.560293	4.223279	0.365969	Pt	2.668522	-2.951485	1.578471
Pt	-3.556939	0.203544	2.361944	Pt	-1.196699	-0.590339	4.076972

Atom	Coordinates for Pt ₉ Ni ₄₆			Atom	Coordinates for Pt ₁₀ Ni ₄₅		
	X	Y	Z		X	Y	Z
Ni	0.828036	-1.293127	1.810309	Ni	-1.247498	-1.639481	1.160592
Ni	-3.098403	2.697769	0.517373	Ni	2.396218	0.948210	-3.247588
Ni	-0.565937	-3.124791	2.657279	Ni	1.862162	-1.523166	4.266013
Ni	-2.599002	-2.354376	-3.301407	Ni	2.561743	3.314116	-2.377683
Ni	-1.544724	3.577523	-1.378157	Ni	2.361619	-0.223192	0.091065
Ni	1.764914	-2.643487	-2.642198	Ni	-2.235525	1.441346	4.061550
Ni	-0.717656	-4.072386	0.316165	Ni	1.259488	1.630633	-1.169932
Ni	1.661527	-2.615249	3.739067	Ni	1.830785	-4.497813	-0.018678
Ni	0.679227	-2.223935	-0.488413	Ni	-2.452921	-3.324176	-0.155791
Ni	2.147881	-0.130849	3.530978	Ni	3.707853	1.459194	-1.104590
Ni	-2.744395	-2.980920	-0.856022	Ni	2.412317	3.254639	2.679068
Ni	-3.704514	-0.767540	-1.684585	Ni	-0.264951	-3.904345	-1.305436
Ni	3.690788	0.721048	1.686207	Ni	2.123844	0.856851	3.448411
Ni	-2.150559	0.127878	-3.543735	Ni	-1.080761	0.733109	1.976973
Ni	-1.762962	2.615818	-3.702271	Ni	2.192191	-1.436932	-4.045795
Ni	1.380502	1.745763	-0.804804	Ni	3.527977	-0.931712	-1.960714
Ni	2.326310	-0.435091	0.012769	Ni	-2.598565	-3.335858	2.372960
Ni	3.443020	-0.792507	-2.148457	Ni	-0.184320	-0.043163	4.137195
Ni	-3.453594	0.799722	2.152313	Ni	-3.710554	-1.459070	1.058322
Ni	-2.333000	0.411434	-0.011032	Ni	3.617016	1.375977	1.455677
Ni	-1.042845	0.350788	2.105993	Ni	-2.314534	-3.312822	-2.691452
Ni	-1.394754	-1.746757	0.784722	Ni	2.464977	3.326748	0.157820
Ni	4.779382	-0.827435	0.012083	Ni	4.808543	-0.439851	0.176665
Ni	-0.624692	-3.453910	-2.179099	Ni	-1.847607	3.029911	-2.128426
Ni	1.257309	1.158731	1.636368	Ni	0.901747	-0.760091	2.056032
Ni	3.799540	1.363107	-0.831000	Ni	-2.358845	0.214759	-0.116759
Ni	-1.279056	-1.155316	-1.625284	Ni	0.148506	0.051867	-4.149952
Ni	2.633211	2.354448	3.324163	Ni	0.364144	2.470734	-3.295578
Ni	2.858190	3.582192	-1.589319	Ni	1.158806	1.604610	1.312370
Ni	-0.218995	-0.933441	4.020558	Ni	0.408028	3.947448	-1.189107
Ni	-3.828981	-1.364279	0.792472	Ni	-0.091100	-2.357267	-3.409557
Ni	2.107115	-0.759347	-4.308629	Ni	-1.147604	-1.598030	-1.329700
Ni	-4.743026	0.836699	-0.028835	Ni	-0.917314	0.766580	-2.059818
Ni	-3.257124	1.729596	-1.862216	Ni	1.076852	-0.704860	-1.992265
Ni	1.351637	-4.554075	-1.044428	Ni	-2.376124	-0.964883	3.227439
Ni	-0.693929	2.214314	0.500315	Ni	-3.309540	2.482369	-0.120214
Ni	-2.839169	-3.546962	1.598553	Ni	3.348876	-2.497726	0.056724
Ni	-0.835414	1.276688	-1.821519	Ni	-3.513605	0.986868	1.932562
Ni	0.716036	4.060744	-0.309793	Ni	0.898596	-2.196881	0.016270
Ni	-2.153961	0.662154	4.310377	Ni	-4.832337	0.444119	-0.169523

Ni	-2.495898	-1.448282	2.956550	Ni	-0.865275	2.213212	-0.011539
Ni	-0.257038	-1.523668	-3.841627	Ni	1.995174	-2.978970	-2.056351
Ni	-1.426399	4.539745	0.967947	Ni	-1.785068	4.517711	-0.072321
Ni	1.023880	-0.345146	-2.113666	Ni	-1.832277	1.608638	-4.215174
Ni	2.701590	2.985818	0.878306	Ni	0.001542	0.002601	-0.005492
Ni	-0.003522	-0.001752	-0.000599	Pt	0.259576	4.028084	1.452557
Pt	3.343124	-1.888034	1.900532	Pt	0.042506	2.528494	3.457242
Pt	1.682433	-3.701455	1.382827	Pt	-2.267170	-0.861874	-3.548984
Pt	0.210912	1.674282	3.944284	Pt	-0.327702	-4.046381	1.336280
Pt	-1.761394	2.736005	2.802735	Pt	-1.997546	3.147277	2.119240
Pt	2.504269	1.517349	-3.127213	Pt	3.431618	-1.128199	2.255685
Pt	3.195335	-2.830738	-0.426415	Pt	1.913570	-3.130460	2.208149
Pt	0.623856	3.161232	-2.832401	Pt	-0.315113	-2.615923	3.374890
Pt	0.562522	3.559298	2.316924	Pt	-3.485739	0.960726	-2.320089
Pt	0.258397	1.054709	-4.155043	Pt	-3.716679	-1.433706	-1.579242

Atom	Coordinates for Pt ₁₁ Ni ₄₄			Atom	Coordinates for Pt ₁₂ Ni ₄₃		
	X	Y	Z		X	Y	Z
Ni	-0.460633	2.231920	0.669894	Ni	0.960107	1.187262	1.820637
Ni	-1.475816	-0.926576	-1.611963	Ni	2.222223	-2.656550	-2.259418
Ni	0.609138	1.259565	3.909098	Ni	0.458807	-1.269523	1.955486
Ni	-1.238579	3.812156	-1.073669	Ni	-2.286951	0.446236	-0.465665
Ni	-3.123953	-3.348793	1.627664	Ni	2.571266	2.976292	1.311720
Ni	1.097777	3.980293	-0.132117	Ni	-1.397533	0.389288	1.881880
Ni	-0.906017	4.548288	1.351956	Ni	-1.537747	-1.728911	0.540666
Ni	4.669113	-1.294964	-0.351842	Ni	0.807878	4.051381	-0.184799
Ni	2.974831	1.943488	3.313572	Ni	1.134973	3.044269	-2.558273
Ni	1.513018	1.656223	-0.779015	Ni	1.543180	-4.555768	-0.709601
Ni	-0.030007	-1.214942	3.966266	Ni	0.964773	-2.551679	4.024688
Ni	-2.295459	0.575523	-3.398617	Ni	-3.925140	-1.300364	0.053274
Ni	3.893563	1.048746	-0.942381	Ni	-2.999021	-1.399228	2.479623
Ni	1.612205	-3.050067	3.429005	Ni	-0.972291	-1.176510	-1.821152
Ni	-2.814713	2.998645	0.788270	Ni	4.672407	-0.929554	0.971853
Ni	-0.615088	-1.262885	-3.895792	Ni	1.444682	-0.058264	3.874275
Ni	-3.158233	2.147307	-1.578128	Ni	-3.190327	-3.502484	1.092875
Ni	-0.857615	0.287571	2.195868	Ni	0.961623	0.901708	-3.930971
Ni	-0.790158	1.480646	-1.686670	Ni	-3.764794	0.870993	1.472482
Ni	1.304737	-2.619794	-2.915234	Ni	-1.257462	3.561201	-1.684382
Ni	0.420995	-2.237169	-0.662909	Ni	-0.746183	2.230537	0.337690
Ni	2.792111	-2.930879	-0.808172	Ni	0.742413	-2.234072	-0.322275
Ni	0.813895	-1.479477	1.673905	Ni	-3.107121	2.742068	-0.131096
Ni	3.224114	-0.934926	-2.409120	Ni	2.838954	-0.805152	-3.864199
Ni	-0.001688	0.002446	0.000395	Ni	1.549931	1.718158	-0.540152
Ni	-4.639760	1.312503	0.314111	Ni	-2.571264	-2.976293	-1.311721
Ni	-1.528206	-1.646905	0.770251	Ni	2.800031	-1.775643	2.471320
Ni	-3.845435	-0.319891	-1.481433	Ni	0.419364	-1.586777	-3.795626
Ni	2.282772	-0.628330	-0.142705	Ni	3.348236	0.759404	2.305022
Ni	-3.022988	-1.852245	-3.320091	Ni	3.107122	-2.742068	0.131098
Ni	3.121981	3.391013	-1.535999	Ni	-0.961625	-0.901707	3.930971
Ni	3.063483	2.626784	0.886287	Ni	-0.230971	-3.510422	-2.173498
Ni	-2.277593	0.652631	0.169663	Ni	-0.915293	2.608957	-3.999443
Ni	-1.673847	3.024689	-3.431759	Ni	2.013112	2.398616	3.719406
Ni	1.265999	-3.808653	1.033691	Ni	-4.690914	0.912199	-0.896201
Ni	1.465778	0.926775	1.623131	Ni	-1.953314	-2.451388	-3.716884
Ni	1.000530	3.240905	2.356916	Ni	2.290722	-0.442701	0.450250
Ni	0.868804	-0.295553	-2.189507	Ni	3.130531	3.555255	-1.095400
Ni	0.920715	-4.569977	-1.360230	Ni	-1.524671	4.573122	0.633951
Ni	-0.748005	-3.216946	2.483691	Ni	-0.468892	1.257852	-1.960629

Ni	-1.748308	0.566222	4.516896	Ni	0.000000	0.000000	0.000000
Ni	1.789586	-0.666995	-4.468747	Ni	1.407616	-0.377616	-1.876737
Ni	-3.896217	-1.018722	0.967179	Ni	-2.888437	0.747875	3.838955
Ni	-2.462843	-1.351368	3.045824	Pt	-1.097699	-3.227500	2.607232
Pt	2.481635	-0.599525	3.448919	Pt	4.077861	1.327395	-0.168625
Pt	-1.164586	-3.383180	-2.358395	Pt	-0.821320	-4.201326	0.306025
Pt	0.148265	1.299614	-4.092917	Pt	3.937953	-0.793964	-1.510464
Pt	0.795379	3.272114	-2.673373	Pt	1.200641	-3.740901	1.727275
Pt	-3.284258	1.084588	2.501455	Pt	-2.208508	2.795833	2.392733
Pt	2.481087	1.478521	-3.171985	Pt	-0.492646	1.736246	3.893855
Pt	-1.209302	-4.113783	0.045616	Pt	0.174530	3.594833	2.337963
Pt	3.967064	0.249670	1.609830	Pt	3.187561	1.383173	-2.519056
Pt	-3.127773	-2.792495	-0.901927	Pt	-1.597218	0.108082	-3.982031
Pt	3.301073	-2.175543	1.669809	Pt	-2.930088	1.739033	-2.609542
Pt	-1.482565	2.641738	3.005532	Pt	-3.431068	-0.720903	-2.475364

Atom	Coordinates for Pt ₁₃ Ni ₄₂			Atom	Coordinates for Pt ₁₄ Ni ₄₁		
	X	Y	Z		X	Y	Z
Ni	0.604476	-4.760234	-0.730411	Ni	0.718055	-4.748656	-0.801835
Ni	-0.575872	4.764342	0.792827	Ni	1.319217	0.990493	1.719004
Ni	1.084133	-1.314689	-4.552499	Ni	1.715845	1.482087	-0.711084
Ni	1.488890	3.516399	1.599709	Ni	-1.293817	-1.030958	-1.714527
Ni	-4.042127	-0.382983	-0.819395	Ni	0.991884	3.390304	2.179792
Ni	0.326504	2.791705	-3.044816	Ni	-2.806696	2.151699	-2.219602
Ni	2.546119	-3.138426	-0.830646	Ni	2.791626	-2.183216	2.172346
Ni	1.227305	1.794577	3.522346	Ni	0.991146	-2.794607	3.860424
Ni	-0.542329	0.560706	-4.062938	Ni	-0.352634	2.302277	0.429958
Ni	2.812264	3.024653	-2.575334	Ni	0.685555	0.842805	-3.992578
Ni	1.118388	3.895702	-0.891159	Ni	-1.522472	2.947113	2.518580
Ni	-1.046187	1.244076	-1.737160	Ni	3.530666	3.012155	-1.443463
Ni	3.376924	-1.974976	1.353768	Ni	1.149038	-0.569427	-2.010023
Ni	-1.718519	-1.086768	-1.224705	Ni	-1.719277	-1.469150	0.712567
Ni	1.397397	1.475690	-1.240269	Ni	2.917773	0.953826	-2.787726
Ni	2.802280	-1.430050	-2.698201	Ni	-2.358776	1.168976	4.087931
Ni	2.849664	-0.110784	3.017525	Ni	-1.005723	2.728479	-3.887491
Ni	4.532338	-1.539178	-0.846011	Ni	-2.617166	-2.103347	-3.527247
Ni	2.225622	-0.724114	-0.411010	Ni	-1.835456	0.309528	-3.692543
Ni	-1.054770	1.393867	4.538405	Ni	-1.408437	-3.870646	0.310888
Ni	-2.121397	2.507756	-3.591486	Ni	2.243756	-0.790940	0.218125
Ni	-0.513657	0.653369	2.226395	Ni	-2.221679	0.762940	-0.287149
Ni	1.053106	-1.219379	1.751063	Ni	0.491378	-1.344239	1.903887
Ni	1.381727	-3.624868	1.430681	Ni	-2.925041	-0.919702	2.802082
Ni	-2.852552	-3.040087	2.533618	Ni	-3.492936	-3.017348	1.489808
Ni	2.203862	-2.502454	3.546043	Ni	-4.639033	1.634519	-0.581646
Ni	0.519445	-0.658828	-2.221114	Ni	-1.134898	0.565121	2.009556
Ni	-1.093450	-3.921253	0.941864	Ni	-0.742728	4.744613	0.914524
Ni	-2.221512	0.729885	0.408835	Ni	0.896881	-3.753727	1.509962
Ni	-4.553234	1.448448	0.856655	Ni	-1.253427	-2.872118	2.697158
Ni	-3.583431	-2.210671	-2.518197	Ni	4.052226	0.692080	-0.517498
Ni	1.732076	1.111644	1.198221	Ni	-0.955764	-3.421281	-2.157703
Ni	0.275285	-2.328247	-0.372785	Ni	4.590078	-1.568723	0.483881
Ni	-3.680771	-0.807948	1.696725	Ni	3.092018	2.564322	1.002787
Ni	-0.301478	2.329949	0.370822	Ni	2.721743	2.062428	3.473566
Ni	-1.377994	-1.485862	1.251460	Ni	2.312219	-1.115143	-4.135150
Ni	-2.832881	0.144892	-3.032918	Ni	-0.474146	1.346433	-1.896962
Ni	3.503975	2.281081	2.493603	Ni	0.009763	-0.007873	-0.000909
Ni	-0.857595	3.067925	2.640213	Ni	-0.132793	-1.638141	-3.808997
Ni	-2.807723	1.411078	2.696701	Ni	0.379380	-2.319240	-0.406290

Ni	0.002492	0.002176	0.002035	Ni	3.626061	0.220628	2.005680
Ni	1.980823	0.840872	-3.536161	Pt	-0.899912	3.870707	-1.534683
Pt	0.515299	-0.648647	4.215925	Pt	1.840996	-0.347304	3.872380
Pt	-3.225081	-2.778661	-0.028730	Pt	-3.783016	-0.345434	-2.028099
Pt	-1.249424	-1.946916	-3.612857	Pt	0.224500	1.575334	3.985033
Pt	-2.690568	3.250710	0.750948	Pt	-2.737684	3.243121	0.191354
Pt	3.360469	2.678316	-0.067783	Pt	-0.619541	-0.777772	4.171437
Pt	-0.356851	-2.793861	3.248843	Pt	-3.258336	-2.569149	-1.047558
Pt	-1.543170	-3.621073	-1.687612	Pt	1.383636	4.031333	-0.391503
Pt	0.748146	-3.171172	-2.768492	Pt	2.786267	-3.267836	-0.275518
Pt	-3.437932	2.152159	-1.381481	Pt	1.256671	3.080688	-2.689790
Pt	-1.509070	3.767388	-1.407549	Pt	1.675839	-3.053709	-2.518585
Pt	3.861171	0.818921	-1.687091	Pt	-3.570112	1.444408	1.768853
Pt	4.198852	0.464399	0.777230	Pt	-4.187413	-0.715932	0.471237
Pt	-1.939459	-0.900554	3.716353	Pt	3.554696	-1.502800	-1.896642

Atom	Coordinates for Pt ₁₅ Ni ₄₀			Atom	Coordinates for Pt ₁₆ Ni ₃₉		
	X	Y	Z		X	Y	Z
Ni	2.328885	-0.462702	-0.300503	Ni	1.714604	-2.472285	3.855423
Ni	0.736761	4.075561	-0.188058	Ni	-0.728131	2.271819	0.379399
Ni	1.353639	-2.519172	-3.008005	Ni	-2.191816	0.831095	4.453807
Ni	-0.768299	-1.390586	-3.981539	Ni	0.510501	3.581580	2.043188
Ni	0.298051	3.226916	-2.577506	Ni	0.230677	0.863542	-4.091518
Ni	1.494750	1.071251	1.525455	Ni	-4.778883	0.848502	-0.089552
Ni	2.616331	-0.253547	3.336114	Ni	-1.718173	2.469078	-3.881810
Ni	4.758945	-0.935959	-0.586950	Ni	2.531526	1.402470	-3.017937
Ni	-3.174721	-2.193988	-3.253696	Ni	3.178758	-2.810806	-0.358552
Ni	-0.754612	-4.116276	0.198350	Ni	2.715717	3.080843	0.742942
Ni	2.675831	3.641995	-1.786044	Ni	-2.889843	-3.538647	1.749531
Ni	3.559825	-1.923988	1.415128	Ni	3.312732	-1.739253	2.044835
Ni	0.584369	-2.240131	-0.690076	Ni	1.454605	-4.586533	-0.866593
Ni	0.293222	-1.127045	4.106694	Ni	-3.139097	2.742012	0.336096
Ni	-0.000368	-0.012877	-0.000977	Ni	-3.805634	-1.316994	0.838067
Ni	3.899433	0.633410	1.219577	Ni	-2.748906	-3.142303	-0.734407
Ni	-0.756126	0.257205	2.251660	Ni	0.826664	-1.233436	1.882217
Ni	1.179321	-4.501034	-1.390692	Ni	-2.685804	-2.660896	-3.326750
Ni	-1.046037	1.384379	-1.642611	Ni	2.144993	0.041403	3.504067
Ni	-0.257948	1.145769	-3.964194	Ni	1.246715	1.282192	1.596075
Ni	-2.064789	-1.599349	3.198049	Ni	2.901014	3.556984	-1.733927
Ni	-3.714585	-1.396027	1.140946	Ni	-0.003866	0.014572	-0.008811
Ni	1.323735	1.755605	-0.888112	Ni	-1.398071	-1.750379	0.862545
Ni	-2.667081	-3.638009	1.779421	Ni	-0.823914	1.253471	-1.901256
Ni	-3.154931	0.721484	2.601564	Ni	-0.230163	-0.895585	4.133139
Ni	-1.587757	0.513510	4.575319	Ni	1.404981	1.770680	-0.862143
Ni	2.242839	-2.861652	3.501371	Ni	2.570845	2.541568	3.227259
Ni	-4.742617	0.902317	0.641576	Ni	1.062139	-0.368549	-2.122478
Ni	-2.086526	2.838136	-3.374686	Ni	-3.818076	-0.856201	-1.732370
Ni	3.084198	2.200892	3.072607	Ni	-0.571120	-3.678396	-2.074571
Ni	-2.327961	0.450919	0.291766	Ni	0.703775	-2.258119	-0.406875
Ni	-1.317797	-1.813481	0.877630	Ni	-2.366791	0.432700	-0.082875
Ni	-1.163906	4.612565	1.389352	Ni	4.968517	-0.928029	0.154793
Ni	2.876733	2.909117	0.637811	Ni	0.228018	1.765465	3.882158
Ni	-0.571904	2.203264	0.676435	Ni	-1.491131	4.593810	0.862947
Ni	-2.681388	0.399348	-3.269528	Ni	-2.559781	-1.425923	3.098379
Ni	1.535145	-0.538655	-4.606655	Ni	2.151929	-0.826335	-4.266961
Ni	2.977456	-2.719292	-0.983294	Ni	1.791006	-2.664953	-2.560021
Ni	-4.028093	-0.594484	-1.281484	Ni	-3.238659	1.661639	-2.022509
Ni	0.763680	-0.269805	-2.252132	Pt	-0.687216	-4.230962	0.554628

Pt	-1.043642	-3.477102	-2.349527	Pt	2.475890	-0.403345	0.052938
Pt	-1.396676	2.638682	3.079507	Pt	-1.933928	2.772643	2.687159
Pt	-0.207398	-3.385603	2.683039	Pt	0.562944	3.225895	-2.848302
Pt	0.926648	3.446747	2.393071	Pt	-0.562053	-3.206595	2.845736
Pt	-1.573881	-1.159645	-1.596003	Pt	3.851789	0.897551	1.690119
Pt	-2.974255	-3.044613	-0.766911	Pt	-1.559331	3.723989	-1.600530
Pt	0.723084	1.519141	3.960353	Pt	4.043556	1.370462	-0.824644
Pt	-1.786096	3.781067	-0.989406	Pt	1.549517	-3.708395	1.576446
Pt	3.841367	1.370581	-1.330699	Pt	3.649931	-0.811839	-2.122503
Pt	1.088468	-1.487754	1.723637	Pt	-0.283733	-1.732660	-3.929614
Pt	1.714985	-3.817078	1.090160	Pt	-1.320946	-1.279600	-1.709865
Pt	-3.536963	2.044152	-1.351431	Pt	-1.134956	0.467767	2.186286
Pt	3.278983	-0.669642	-2.695929	Pt	-3.583468	0.919432	2.210198
Pt	2.274596	1.563671	-3.284280	Pt	-2.200211	-0.098641	-3.717403
Pt	-3.044921	2.841812	1.024336	Pt	0.670354	4.242494	-0.555600

Atom	Coordinates for Pt ₁₇ Ni ₃₈			Atom	Coordinates for Pt ₁₈ Ni ₃₇		
	X	Y	Z		X	Y	Z
Ni	-3.269166	-3.686637	1.097096	Ni	-0.639521	2.907671	-3.904439
Ni	-0.744696	-1.143409	3.863053	Ni	-0.652599	4.770880	0.959686
Ni	-0.638669	2.253588	0.533460	Ni	0.656535	-4.755532	-0.949299
Ni	-0.525129	1.461920	-1.850980	Ni	-1.503471	-3.989953	0.111261
Ni	0.968899	4.043255	0.057146	Ni	1.638653	-0.582366	3.894637
Ni	-3.525340	-0.423522	-2.184028	Ni	2.216880	-0.864615	0.337152
Ni	0.661530	-2.257385	-0.557629	Ni	-0.342150	2.354556	0.449353
Ni	-1.025778	-3.321899	2.457138	Ni	-3.554177	-0.028423	-2.207231
Ni	3.224521	3.475577	-1.088039	Ni	-1.272458	0.580906	1.952808
Ni	1.067146	3.238620	-2.422412	Ni	-1.262241	-0.874654	-1.847102
Ni	0.014120	0.004837	-0.013343	Ni	4.052356	0.650103	-0.238128
Ni	1.109455	-2.939266	3.751181	Ni	1.488142	2.978638	-2.533377
Ni	2.031463	-2.688735	-2.645604	Ni	-2.518302	-1.836539	-3.718707
Ni	-1.952137	2.618147	2.585719	Ni	0.329112	-1.436841	1.898147
Ni	-0.932406	-4.162905	-0.045598	Ni	-1.596992	0.564843	-3.825626
Ni	2.337447	-0.583532	0.273062	Ni	1.781243	1.506554	-0.572298
Ni	2.879592	2.863537	1.367295	Ni	-0.007857	0.012648	-0.004866
Ni	1.790790	-0.506012	3.835587	Ni	-2.231019	0.876715	-0.341825
Ni	0.573738	-1.454945	1.825997	Ni	-3.564533	1.447057	1.644681
Ni	-1.247889	4.588463	1.153624	Ni	1.481594	3.911539	-0.097930
Ni	-1.287827	0.321600	1.977834	Ni	4.529682	-1.725200	0.673019
Ni	3.956284	1.164894	-0.289558	Ni	-1.510097	-3.045931	2.575741
Ni	2.774100	-0.684151	-4.203623	Ni	3.629741	-1.487928	-1.674389
Ni	-2.279387	-2.014486	-3.775826	Ni	-4.548451	1.722786	-0.672145
Ni	3.794438	-0.936360	-1.779468	Ni	-1.613897	2.973224	2.461732
Ni	-1.047721	2.944169	-3.780976	Ni	0.335429	-2.336653	-0.450918
Ni	1.590173	1.739812	-0.525523	Ni	0.643532	-2.903182	3.886475
Ni	-1.135742	-0.968031	-1.877745	Ni	2.672664	-1.207481	-4.125300
Ni	-1.686466	0.492031	-3.791140	Ni	-0.939007	-3.255115	-2.328825
Ni	2.468024	2.067795	3.872102	Ni	-2.539007	1.113286	3.982153
Ni	-0.506230	-3.263613	-2.459450	Ni	-3.767649	-3.159685	1.200191
Ni	-3.679760	0.883322	1.724685	Ni	-0.335809	1.451196	-1.908974
Ni	-2.310688	0.575356	-0.294852	Ni	3.649594	2.989194	-1.135202
Ni	-4.723154	1.115688	-0.572088	Ni	-0.955763	-0.867974	3.903085
Ni	1.293413	-4.590838	-1.156553	Ni	2.651117	1.862321	3.888777
Ni	3.619760	0.386516	2.202350	Ni	3.619171	0.017976	2.256947
Ni	-2.576983	0.598933	4.041202	Ni	1.655849	-3.032291	-2.501179
Ni	4.752810	-1.136501	0.547666	Pt	3.183728	0.968173	-2.728954
Pt	-3.092102	3.010196	0.183489	Pt	1.015310	3.425335	2.483503
Pt	0.216544	-1.306386	-4.104810	Pt	-3.274511	-0.989466	2.611362

Pt	-2.896680	-2.854085	-1.376185	Pt	-0.794242	3.977975	-1.525904
Pt	-2.988057	2.211944	-2.192423	Pt	0.053071	-1.481239	-4.040271
Pt	3.012015	1.483835	-2.728553	Pt	0.031464	1.597109	3.996114
Pt	-1.658215	-1.796096	0.526564	Pt	-2.679011	3.406659	0.032611
Pt	0.572305	3.388494	2.600824	Pt	-4.282916	-0.719968	0.264269
Pt	0.870128	1.177370	-4.109905	Pt	2.671280	-3.393145	-0.039391
Pt	-1.311250	3.888485	-1.359686	Pt	3.172630	2.549270	1.398683
Pt	-4.119889	-1.304060	0.265245	Pt	-2.672706	2.508276	-2.312724
Pt	-3.050158	-1.526851	2.591172	Pt	2.664966	-2.493703	2.308704
Pt	1.359791	-0.294408	-2.118300	Pt	0.784291	-3.965135	1.520959
Pt	1.185294	1.069158	1.936975	Pt	1.033096	0.891434	-4.131540
Pt	1.350549	-3.886355	1.343020	Pt	-1.912376	-1.525882	0.579349
Pt	-0.090155	1.424093	4.047766	Pt	-3.264001	-2.486717	-1.297386
Pt	3.034747	-2.214353	2.170900	Pt	1.291438	0.980765	1.921309
Pt	3.122956	-3.010512	-0.211694	Pt	1.302193	-0.551473	-2.078776

Atom	Coordinates for Pt ₁₉ Ni ₃₆			Atom	Coordinates for Pt ₂₀ Ni ₃₅		
	X	Y	Z		X	Y	Z
Ni	-1.072788	-3.203321	2.469121	Ni	-2.578758	1.755716	-2.912260
Ni	-0.597986	1.574584	-1.718638	Ni	-1.543113	-1.758502	3.463272
Ni	2.011022	-0.725827	-4.358168	Ni	-1.491879	-3.837483	-1.119847
Ni	3.522997	3.354065	-1.422882	Ni	-1.016982	1.323527	1.749408
Ni	2.281196	-0.830263	-0.024712	Ni	-4.540565	1.961973	-1.120434
Ni	1.332791	-2.723924	-2.887909	Ni	-0.353490	0.753061	-2.243922
Ni	1.483064	0.770366	1.731535	Ni	2.106751	-2.728586	-3.555333
Ni	0.626894	-1.577214	1.725430	Ni	1.001330	-1.324338	-1.719985
Ni	-3.415634	1.253970	2.235100	Ni	-1.119326	3.771869	1.450354
Ni	1.019669	-0.387455	-2.145066	Ni	2.138561	-0.921295	0.515906
Ni	3.347927	-1.208494	-2.207983	Ni	-3.762369	-0.407404	-1.983499
Ni	-2.143495	0.788877	4.505351	Ni	-1.885907	-0.958069	1.153344
Ni	-0.607930	4.651755	1.403521	Ni	1.849263	0.977300	-1.119098
Ni	-2.262580	0.815533	0.026885	Ni	-2.085163	2.691261	3.519643
Ni	-1.365251	2.784577	2.928992	Ni	0.708256	-1.572258	4.584174
Ni	1.408151	4.032824	0.014831	Ni	-3.022738	-2.678491	-2.770250
Ni	-3.892553	0.062353	-1.754653	Ni	-2.951980	0.372099	2.934995
Ni	1.178571	3.093728	2.442245	Ni	2.519884	-1.744735	2.816118
Ni	-3.372940	-3.279279	1.382609	Ni	1.579941	1.796905	-3.410837
Ni	3.817783	-0.034528	1.722673	Ni	0.343508	-0.747234	2.267965
Ni	-4.618000	1.626231	0.066312	Ni	3.106209	2.675708	2.787461
Ni	1.107518	3.281674	-2.500159	Ni	-3.814252	-1.970201	2.268121
Ni	4.636495	-1.630948	-0.067116	Ni	-0.182992	4.839927	-0.643392
Ni	-0.312042	2.289035	0.673476	Ni	-3.399587	-2.312509	-0.216630
Ni	0.418749	1.195262	-3.914172	Ni	3.842952	2.026214	-2.341617
Ni	2.950109	1.620541	3.497909	Ni	4.376288	-1.900528	1.067988
Ni	-1.631840	-1.616544	0.677876	Ni	1.480930	1.302141	1.359065
Ni	-2.144644	0.837212	-3.591149	Ni	0.142537	-5.015009	0.623315
Ni	-3.115117	-1.638787	-3.622915	Ni	-0.072105	2.379011	-0.295512
Ni	0.619659	-4.655802	-1.423570	Ni	-0.011306	0.002921	0.009867
Ni	0.015188	-0.008170	0.000624	Ni	3.705247	0.390321	1.911332
Ni	2.100199	-0.806502	3.531972	Ni	-1.485460	-1.319492	-1.370159
Ni	1.213291	-3.172570	3.542561	Ni	-0.434760	3.199608	-2.571748
Ni	-1.372665	-3.952585	-0.039550	Ni	1.121254	-3.826204	-1.526127
Ni	0.338900	-2.296787	-0.683832	Ni	-0.661749	1.572081	-4.566774
Ni	-1.197261	3.179273	-3.526622	Pt	0.536104	2.750374	3.270430
Pt	3.363247	2.476099	1.058383	Pt	-1.818070	-0.636975	-3.853594
Pt	-0.472915	-1.233408	4.129052	Pt	4.212694	0.038481	-0.694680
Pt	-2.843979	-1.261138	2.962262	Pt	0.054466	-2.486000	0.376152
Pt	-4.088584	-0.871941	0.749155	Pt	-2.260893	1.003481	-0.502238

Pt	4.201724	0.866944	-0.761189	Pt	1.541238	3.862433	1.086956
Pt	2.886626	1.285231	-2.928864	Pt	-4.259923	0.042981	0.659181
Pt	-3.330498	-2.476741	-1.107799	Pt	2.322222	-3.503446	0.833080
Pt	-2.699532	3.307163	0.652823	Pt	-1.860024	-3.562206	1.563255
Pt	1.068435	-4.051695	1.082401	Pt	3.527276	2.417181	0.214633
Pt	-1.275419	-3.238522	-2.584435	Pt	0.723914	-0.601290	-4.178819
Pt	-2.985052	2.593773	-1.735738	Pt	-3.413350	2.392390	1.262761
Pt	-0.532165	-1.285739	-4.071746	Pt	1.949504	3.556355	-1.395751
Pt	-1.042936	4.053503	-1.085988	Pt	3.058836	-0.390868	-2.959153
Pt	2.724160	-3.311088	-0.656019	Pt	3.349934	-2.325294	-1.274107
Pt	-1.510141	-0.860245	-1.809503	Pt	-0.495208	-2.685363	-3.348582
Pt	0.446960	1.160671	4.119285	Pt	0.443285	-3.381240	2.687484
Pt	3.009988	-2.596927	1.735123	Pt	-0.604395	0.667207	4.220004
Pt	-1.023338	0.356066	2.262929	Pt	1.858833	0.649229	3.844560
Pt	1.795975	1.625136	-0.700062	Pt	-2.412617	3.479257	-0.835267

Atom	Coordinates for Pt ₂₁ Ni ₃₄			Atom	Coordinates for Pt ₂₂ Ni ₃₅		
	X	Y	Z		X	Y	Z
Ni	1.020531	-1.666628	-1.381940	Ni	3.608043	1.612230	-3.172061
Ni	-1.055459	1.660469	1.406341	Ni	4.577626	-1.307861	1.107433
Ni	1.629961	0.985155	-3.735725	Ni	-0.853051	2.446237	-3.223080
Ni	-0.596356	0.528313	-4.830240	Ni	-1.186909	-4.016910	0.028881
Ni	-3.227237	2.483014	0.638634	Ni	0.268844	-2.199242	0.853651
Ni	0.572640	-0.543759	4.891948	Ni	-0.543389	4.521289	-1.776129
Ni	3.007063	3.187474	2.146557	Ni	2.793819	-0.895409	-3.111271
Ni	2.117533	-0.765643	0.728485	Ni	0.538943	-4.566167	1.766028
Ni	1.131037	-3.990005	-0.582093	Ni	-0.282904	2.232212	-0.854561
Ni	-1.655922	-0.968808	3.821657	Ni	-1.219233	0.343083	-4.712285
Ni	2.150172	-3.468084	-2.815889	Ni	-2.223666	0.661087	-0.542785
Ni	1.870866	0.674869	-1.317027	Ni	-2.940736	-3.563234	-1.716306
Ni	-1.469711	-1.589419	-1.083112	Ni	-1.705593	-0.752347	1.479442
Ni	-1.455459	-3.895975	-0.242176	Ni	-2.887128	0.855432	-2.889617
Ni	-0.016919	0.002201	-0.008067	Ni	2.237051	-0.645775	0.535627
Ni	-0.084344	4.764706	-1.699453	Ni	-1.013510	1.593730	1.471950
Ni	-0.311193	0.237330	-2.386580	Ni	-2.794192	0.835303	3.022666
Ni	-3.074182	1.018664	2.791492	Ni	-1.418199	-1.711104	-0.844964
Ni	4.399199	-1.597496	1.513292	Ni	-2.117208	3.257539	3.050720
Ni	0.112641	-4.599565	1.650475	Ni	1.252365	-0.356265	4.769748
Ni	-2.145758	3.373556	2.836487	Ni	0.005522	0.013250	-0.006269
Ni	3.880375	1.441111	-2.712001	Ni	2.946747	3.497352	1.723795
Ni	-2.467448	1.078002	-3.204723	Ni	1.020887	-1.587144	-1.482666
Ni	1.485215	3.992811	0.307672	Ni	1.141237	0.961844	-4.000741
Ni	0.261643	-0.247360	2.366761	Ni	3.753477	1.101103	1.400326
Ni	3.680691	0.786718	1.828534	Ni	1.441817	1.729643	0.861425
Ni	-2.998856	-3.233250	-2.148073	Ni	0.594549	-0.156793	2.303985
Ni	1.449161	1.584958	1.060210	Ni	2.876566	-0.822332	2.918965
Ni	-4.006695	-1.475089	2.721914	Ni	-3.535346	-1.556097	3.068189
Ni	-1.140421	4.069425	0.635526	Ni	1.192855	4.017681	-0.007105
Ni	-2.144015	0.801078	-0.772722	Ni	2.102197	-3.293077	-3.042245
Ni	-3.662574	-0.815297	-1.857326	Ni	-4.610799	1.351899	-1.137606
Ni	0.056519	-2.244067	0.808287	Ni	-0.573391	0.165003	-2.327666
Ni	-4.316519	1.653026	-1.498559	Pt	2.628737	-3.038466	1.434417
Pt	0.787274	-1.533521	-3.942981	Pt	3.419113	-2.394954	-0.943464
Pt	-0.447817	-3.368101	-2.674966	Pt	-4.169426	-0.146437	0.941730
Pt	2.501542	-1.152303	3.264937	Pt	-3.864398	-1.150343	-1.411624
Pt	-0.359411	2.712864	-3.364257	Pt	-1.512329	-3.099485	2.514992
Pt	4.227689	-0.103220	-0.643440	Pt	-2.668024	3.084404	-1.350573
Pt	3.516818	2.356980	-0.307112	Pt	1.801147	0.864205	-1.546466

Pt	-2.029183	-0.751748	1.298361	Pt	-0.409977	1.505791	3.999372
Pt	-1.755661	-1.487925	-3.657584	Pt	1.590098	3.168223	-2.479243
Pt	1.814528	1.376812	3.630936	Pt	-1.134436	-1.032049	3.996882
Pt	3.109604	-1.061955	-2.774436	Pt	-1.411578	4.002083	0.657897
Pt	-0.708869	1.542139	3.980726	Pt	2.029501	1.713834	3.379274
Pt	1.962210	3.145261	-2.184350	Pt	-3.431323	2.384940	0.952047
Pt	-3.597140	-2.427872	0.286094	Pt	0.420918	3.464668	2.496682
Pt	0.401296	-2.649088	3.328604	Pt	0.865881	-2.521184	3.333220
Pt	-0.068348	2.352547	-0.894591	Pt	-3.338360	-2.569071	0.680243
Pt	-4.281441	0.034440	0.562046	Pt	4.161670	0.118144	-1.045030
Pt	2.314877	-3.160674	1.665040	Pt	-2.119107	-1.672984	-3.313310
Pt	-2.251247	3.251091	-1.715655	Pt	3.388188	2.626979	-0.728183
Pt	0.456457	3.330627	2.697172	Pt	1.414056	-3.986081	-0.635251
Pt	-1.947113	-3.094687	2.242083	Pt	-0.431893	-3.480751	-2.466443
Pt	3.357755	-2.534104	-0.675196	Pt	0.324255	-1.607624	-3.982646

Atom	Coordinates for Pt ₂₃ Ni ₃₂			Atom	Coordinates for Pt ₂₄ Ni ₃₁		
	X	Y	Z		X	Y	Z
Ni	0.974421	-0.428326	2.131810	Ni	0.159598	2.925912	-3.001560
Ni	1.382629	-2.759352	2.840529	Ni	3.511927	1.526345	1.688403
Ni	0.573833	-1.499293	-1.754113	Ni	-3.531830	-1.529721	-1.692610
Ni	2.023322	-0.905115	4.405263	Ni	4.912058	0.002079	0.279798
Ni	-1.068790	-3.143754	-2.557982	Ni	1.050306	1.497593	1.521192
Ni	-0.342903	2.304876	-0.620966	Ni	-1.070209	-1.500969	-1.525400
Ni	-3.886514	-0.194616	1.772887	Ni	-2.209717	4.364268	0.634380
Ni	-1.987367	0.958608	-4.428643	Ni	-2.220046	-3.092318	-3.143622
Ni	-1.003469	3.874312	1.139886	Ni	-4.931960	-0.005456	-0.284006
Ni	-3.028865	-1.800923	3.483780	Ni	-2.392326	0.003942	-0.131276
Ni	4.685456	-1.537415	-0.057344	Ni	-1.071279	2.114168	0.296486
Ni	0.764706	-4.683556	1.342644	Ni	-0.179500	-2.929287	2.997353
Ni	-0.739484	4.661908	-1.263845	Ni	-0.009951	-0.001688	-0.002104
Ni	-1.239147	3.103469	3.569690	Ni	-1.169925	0.410872	2.041588
Ni	3.385546	3.254317	1.566106	Ni	-1.939774	2.050857	-4.047903
Ni	-0.005600	0.006656	-0.000370	Ni	2.372423	-0.007319	0.127068
Ni	-0.604856	1.512568	1.755042	Ni	2.262482	-2.588308	-2.398304
Ni	3.067012	1.778487	-3.441300	Ni	2.200143	3.088942	3.139414
Ni	-4.102163	-0.919223	-0.769538	Ni	-2.412057	0.870480	4.213920
Ni	0.352548	-2.265600	0.643313	Ni	2.189814	-4.367644	-0.638587
Ni	2.262326	-0.742964	-0.020118	Ni	1.097442	1.873684	-0.976312
Ni	-1.475300	-0.874692	1.683653	Ni	2.263224	3.874405	-2.030458
Ni	1.196618	-3.108799	-3.625889	Ni	1.919872	-2.054232	4.043696
Ni	-1.668277	-1.566659	-0.735514	Ni	-2.282386	2.584931	2.394096
Ni	1.640569	1.574718	0.742752	Ni	-1.117344	-1.877060	0.972105
Ni	-1.359673	2.785865	-2.819857	Ni	-2.283125	-3.877782	2.026251
Ni	-3.352965	-3.200367	-1.533382	Ni	0.931708	-0.988040	1.955652
Ni	-0.941045	0.466391	-2.151635	Ni	-0.951610	0.984665	-1.959859
Ni	1.476282	0.879262	-1.666989	Ni	1.051377	-2.117544	-0.300693
Ni	3.826147	0.113234	-1.728842	Ni	1.150021	-0.414248	-2.045796
Ni	1.076249	3.149003	2.539241	Ni	2.392153	-0.873857	-4.218129
Ni	-4.813375	1.545418	-0.001105	Pt	-2.075050	-0.526445	-3.707977
Pt	-0.539429	-1.313022	4.040756	Pt	-2.173399	3.259275	-1.722313
Pt	-3.187001	-2.712569	1.027995	Pt	-0.065976	-4.225611	0.652757
Pt	0.578527	1.347089	-4.040417	Pt	2.055147	0.523070	3.703770
Pt	1.056230	-3.976026	-1.145985	Pt	3.665081	1.964018	-0.952707
Pt	3.453067	-1.197428	2.213667	Pt	-3.507128	1.103631	-2.197903
Pt	-2.381663	0.821346	-0.025271	Pt	0.048125	-1.988553	-3.786611
Pt	-2.728513	-1.125304	-3.058621	Pt	-2.252905	-3.597471	-0.561575
Pt	-1.187016	-3.324628	2.445010	Pt	-3.762447	0.382284	2.009077

Pt	1.446257	4.054247	0.009349	Pt	3.635695	-2.230622	-0.123041
Pt	-1.343807	-4.060209	-0.057894	Pt	-3.684983	-1.967395	0.948499
Pt	2.121747	-0.673306	-3.638927	Pt	0.046074	4.222234	-0.656964
Pt	2.979175	-2.420693	-1.858922	Pt	0.038820	3.830138	1.892159
Pt	3.277208	2.610069	-0.962358	Pt	2.233003	3.594094	0.557368
Pt	1.232172	3.324851	-2.412031	Pt	3.487225	-1.107007	2.193696
Pt	2.782541	-3.180907	0.597940	Pt	0.210363	0.545936	-4.235905
Pt	-0.380289	-1.067570	-4.133192	Pt	-0.068029	1.985178	3.782403
Pt	-3.458284	1.207628	-2.273831	Pt	3.742544	-0.385662	-2.013285
Pt	2.785338	1.159151	3.029040	Pt	-3.655598	2.227245	0.118833
Pt	-2.137211	0.673185	3.647069	Pt	-0.230266	-0.549311	4.231697
Pt	-3.071271	2.353792	1.853794	Pt	-0.058723	-3.833514	-1.896366
Pt	0.373292	1.098055	4.111089	Pt	-2.449738	-1.512271	3.166348
Pt	4.111766	0.867889	0.832234	Pt	2.153496	-3.262651	1.718107
Pt	-2.850708	3.195921	-0.639659	Pt	2.429836	1.508894	-3.170555

Atom	Coordinates for Pt ₂₅ Ni ₃₀			Atom	Coordinates for Pt ₂₆ Ni ₂₉		
	X	Y	Z		X	Y	Z
Ni	0.780194	-1.353361	1.823940	Ni	0.940798	-4.632947	-1.395819
Ni	-2.060832	0.887006	4.399367	Ni	-3.710386	0.994611	1.923146
Ni	-0.993578	-3.469057	-2.151026	Ni	0.983412	-3.194988	3.644907
Ni	1.392350	1.098740	1.609051	Ni	2.660472	-0.517589	-4.144724
Ni	-2.614376	-1.167205	3.076318	Ni	-1.177244	-0.793618	-1.940468
Ni	0.000423	0.000345	-0.000750	Ni	1.294100	-0.251819	-2.015303
Ni	0.971919	-0.430137	-2.152789	Ni	0.458972	-2.250943	-0.687992
Ni	2.595741	1.170156	-3.072551	Ni	3.408243	3.464652	-0.823201
Ni	2.026016	-0.880133	-4.415897	Ni	1.177244	0.793618	1.940467
Ni	-3.147433	2.056220	-1.873945	Ni	1.223381	4.014864	0.283908
Ni	-0.989235	0.435552	2.131020	Ni	0.461399	-1.555626	1.774342
Ni	-2.880072	-2.282337	-3.295716	Ni	1.657861	1.683541	-0.409768
Ni	-4.737862	1.383830	-0.063193	Ni	-0.940800	4.632947	1.395818
Ni	-3.235157	-3.250834	1.831416	Ni	-2.660470	0.517590	4.144726
Ni	3.190325	-2.110580	1.941923	Ni	0.000000	-0.000001	0.000000
Ni	1.601151	-2.786230	3.757353	Ni	1.710169	-0.786335	3.750629
Ni	-0.783927	1.348391	-1.814224	Ni	3.710387	-0.994610	-1.923145
Ni	-0.434279	2.294275	0.506849	Ni	-1.223383	-4.014865	-0.283909
Ni	-2.294180	0.664695	-0.021920	Ni	-0.461399	1.555625	-1.774342
Ni	2.862625	2.274451	3.297240	Ni	-2.447555	-1.610003	-3.984690
Ni	1.549064	1.603485	-0.890719	Ni	-3.408245	-3.464650	0.823202
Ni	-1.396844	-1.097408	-1.598035	Ni	-1.657862	-1.683542	0.409769
Ni	-1.561342	-1.580319	0.879967	Ni	4.816726	-1.497105	0.415535
Ni	-1.642320	2.783447	-3.734043	Ni	-0.458973	2.250942	0.687992
Ni	3.205478	3.275809	-1.836712	Ni	2.447556	1.610003	3.984689
Ni	4.860143	-1.395741	0.026467	Ni	-4.816726	1.497106	-0.415537
Ni	0.976013	3.470973	2.155971	Ni	-0.983411	3.194987	-3.644908
Ni	-0.887607	4.738293	1.061301	Ni	-1.710167	0.786334	-3.750631
Ni	0.874765	-4.729951	-1.049706	Ni	-1.294099	0.251819	2.015303
Ni	0.427116	-2.302350	-0.501671	Pt	0.904610	1.392631	-3.962543
Pt	1.166683	4.100044	-0.449981	Pt	-2.938399	2.461856	-2.047244
Pt	-0.801959	-3.124033	2.819467	Pt	-3.727606	-0.128144	-2.230394
Pt	3.142214	2.797479	0.730089	Pt	2.394394	-0.747281	0.249971
Pt	-0.441178	-1.565398	-3.965965	Pt	1.033899	-3.981088	1.155360
Pt	-1.229439	3.862832	-1.368173	Pt	-3.023600	-2.548658	-1.617107
Pt	-3.462228	1.217362	2.199263	Pt	-1.033900	3.981086	-1.155360
Pt	2.425807	-0.673773	-0.023645	Pt	-1.254618	-3.379574	2.333576
Pt	-3.898155	-0.509922	-1.685905	Pt	-4.170077	-1.048888	0.199243
Pt	-3.159910	-2.788796	-0.728914	Pt	-2.394396	0.747281	-0.249971
Pt	0.769345	3.135046	-2.821520	Pt	-2.890286	3.151096	0.496241

Pt	-4.081706	-0.965424	0.844622	Pt	2.938399	-2.461858	2.047243
Pt	4.131423	1.010898	-0.870381	Pt	3.060689	1.559206	-2.570835
Pt	-2.867075	3.123179	0.568805	Pt	-0.134080	1.136073	4.141359
Pt	-1.557448	2.857621	2.775263	Pt	4.170076	1.048890	-0.199242
Pt	3.917166	0.493665	1.706641	Pt	0.742028	3.172966	2.796933
Pt	1.203958	-3.872212	1.390096	Pt	2.890286	-3.151097	-0.496242
Pt	2.237101	-0.231837	3.649319	Pt	-0.742028	-3.172966	-2.796934
Pt	2.885309	-3.142174	-0.549769	Pt	1.778364	-2.649095	-2.868422
Pt	0.148820	0.948573	-4.178450	Pt	-3.060688	-1.559204	2.570837
Pt	-1.188771	-4.089324	0.456960	Pt	-0.904609	-1.392631	3.962544
Pt	-0.181622	-0.938218	4.175987	Pt	3.023599	2.548659	1.617107
Pt	3.495061	-1.231379	-2.261943	Pt	0.134081	-1.136072	-4.141359
Pt	-2.261419	0.226560	-3.624851	Pt	-1.778364	2.649096	2.868423
Pt	0.415688	1.564134	3.965507	Pt	3.727606	0.128144	2.230394
Pt	1.538052	-2.854929	-2.777806	Pt	1.254617	3.379574	-2.333575

Atom	Coordinates for Pt ₂₇ Ni ₂₈			Atom	Coordinates for Pt ₂₈ Ni ₂₇		
	X	Y	Z		X	Y	Z
Ni	-0.486856	-3.952150	-1.631855	Ni	-2.690227	-3.576375	-2.059571
Ni	-2.889099	1.623410	3.836390	Ni	-2.286153	0.521170	-0.626210
Ni	-2.915874	1.485765	-2.794575	Ni	-1.187009	1.543765	1.440959
Ni	1.069484	1.484864	1.568626	Ni	2.260561	-0.533741	0.613389
Ni	-2.299103	0.487742	-0.547364	Ni	0.390806	-2.213630	0.811479
Ni	3.072293	0.760877	-2.764238	Ni	0.882863	-0.456081	4.848639
Ni	2.172861	3.060775	3.229849	Ni	-0.832248	4.597198	-1.617760
Ni	1.288217	-4.902446	0.082175	Ni	-1.330817	-1.203776	3.919615
Ni	1.016102	-1.905386	4.440263	Ni	3.542166	1.971156	-2.839782
Ni	0.002498	0.001247	0.000612	Ni	2.804349	3.650777	2.122532
Ni	-3.149537	-0.803824	2.820239	Ni	-4.670058	1.040222	-1.286901
Ni	1.392177	-0.768037	-1.816423	Ni	-0.916178	0.485299	-4.968637
Ni	-1.656733	-1.508393	0.896302	Ni	3.761659	1.214809	1.684613
Ni	3.408328	3.079913	-1.849061	Ni	-2.410176	3.156968	2.944253
Ni	-1.062201	-1.483830	-1.579035	Ni	1.720613	0.962712	-1.396193
Ni	2.297350	-0.476029	0.552074	Ni	1.170994	-1.501525	-1.444154
Ni	-1.007825	1.977043	-4.558050	Ni	-0.413057	2.250179	-0.796646
Ni	0.493304	-0.926829	2.173723	Ni	0.418405	-0.225857	2.368671
Ni	-3.379936	-3.105685	1.840753	Ni	-1.312172	-1.759600	-1.009366
Ni	4.712743	-1.003032	1.142616	Ni	4.641031	-1.103791	1.256791
Ni	-1.217187	4.784604	-0.070131	Ni	-3.642257	-2.002889	2.912842
Ni	1.663228	1.501647	-0.887655	Ni	1.369732	1.261110	-3.888055
Ni	0.457270	3.868327	1.576667	Ni	0.804269	-4.634228	1.695928
Ni	2.844548	-1.559876	-3.722127	Ni	-3.629190	-1.248834	-1.649537
Ni	2.828039	-1.456152	2.746042	Ni	2.438668	-3.142456	-3.029351
Ni	-4.713123	1.012076	-1.104441	Ni	-1.587091	3.844511	0.664765
Ni	-0.594030	2.339423	-0.040720	Ni	-0.009319	0.009820	-0.000123
Ni	-2.169954	-3.028618	-3.252135	Pt	1.041937	4.220630	0.199996
Pt	2.894107	3.102158	0.700320	Pt	1.367755	1.843351	1.055032
Pt	1.111837	4.009954	-1.030131	Pt	-3.083047	0.637705	2.963847
Pt	1.211441	2.644605	-3.231939	Pt	3.215240	2.848175	-0.410931
Pt	-0.908786	-0.161964	4.215644	Pt	-1.844673	-0.996663	1.424673
Pt	3.854829	-1.355118	-1.296546	Pt	-1.406201	-3.370751	2.296233
Pt	-4.148526	-1.100582	0.313262	Pt	-2.817867	2.863458	-1.529560
Pt	-2.154132	3.281639	1.879845	Pt	3.606698	-2.159649	-0.895356
Pt	1.588542	0.616840	3.933589	Pt	0.921968	-2.589757	3.311720
Pt	-0.324727	2.343150	3.648445	Pt	-0.910730	2.620455	-3.316627
Pt	-2.897738	-3.099008	-0.720383	Pt	4.178432	0.393229	-0.858388
Pt	-3.872160	1.349801	1.341232	Pt	0.776251	-1.378751	-4.013543
Pt	-3.542815	-1.085375	-2.188632	Pt	3.083797	-0.616581	-2.938433

Pt	3.528472	1.094321	2.200463	Pt	0.194973	3.447576	2.648689
Pt	1.114772	-3.495038	2.342062	Pt	-2.857868	0.846810	-3.180138
Pt	0.336372	-2.291968	-3.605014	Pt	2.777773	-2.916237	1.501183
Pt	-1.095651	-4.049497	1.007774	Pt	-3.194082	-2.905999	0.435737
Pt	-1.608092	-0.582309	-3.960990	Pt	-4.252968	-0.426546	0.853290
Pt	0.912263	0.149965	-4.253063	Pt	-3.645570	2.107984	0.863447
Pt	-1.423576	0.844410	1.910621	Pt	1.841010	1.593868	3.562163
Pt	0.665298	-2.437686	0.071659	Pt	-0.129464	-3.426060	-2.585850
Pt	4.150512	1.080504	-0.308946	Pt	-0.495882	0.234426	-2.474873
Pt	-1.117988	3.465389	-2.316239	Pt	1.631215	-3.924686	-0.674814
Pt	-0.464865	0.982812	-2.282116	Pt	-0.957485	-4.181824	-0.191922
Pt	3.098408	-2.998798	0.560386	Pt	2.801035	-0.863968	3.123861
Pt	-1.169366	-2.612130	3.189318	Pt	-1.799573	-1.633181	-3.595986
Pt	2.127098	-3.253353	-1.874813	Pt	-0.739156	1.433908	3.978622
Pt	-3.042511	2.969849	-0.534327	Pt	1.406324	3.392163	-2.224265

Atom	Coordinates for Pt ₂₉ Ni ₂₆			Atom	Coordinates for Pt ₃₀ Ni ₂₅		
	X	Y	Z		X	Y	Z
Ni	-1.766297	3.610923	-1.533021	Ni	2.463543	3.943039	1.639349
Ni	1.998122	0.506006	-1.185801	Ni	-0.786894	4.281677	-2.464013
Ni	-4.162060	-1.083171	2.401783	Ni	3.470463	1.595506	1.664180
Ni	-0.206749	0.375060	-2.361905	Ni	2.232102	-0.363036	0.843952
Ni	3.365637	2.743431	2.425873	Ni	-4.561232	0.713479	-1.729212
Ni	0.842312	-1.694224	-1.477201	Ni	4.561231	-0.713479	1.729215
Ni	-3.716620	-1.876187	0.018759	Ni	0.000000	0.000000	-0.000001
Ni	0.430288	-0.807063	4.920580	Ni	0.386601	-2.072260	1.180536
Ni	-0.483829	-4.802370	1.563406	Ni	-2.463544	-3.943040	-1.639346
Ni	1.868733	-3.559212	1.532504	Ni	0.583618	0.360162	5.039161
Ni	4.186295	1.068862	-2.463990	Ni	-3.809077	-1.659331	2.932750
Ni	-1.773173	3.539286	3.062339	Ni	-1.195205	-1.938702	-0.799530
Ni	0.197993	-0.379480	2.361949	Ni	1.195205	1.938701	0.799531
Ni	0.520201	4.669463	-1.511786	Ni	1.633285	0.657864	-4.036760
Ni	-3.362258	-2.715181	-2.363805	Ni	-3.470465	-1.595507	-1.664174
Ni	-1.645283	-1.335611	-1.172999	Ni	3.809081	1.659331	-2.932746
Ni	1.978294	-1.153752	0.727125	Ni	-1.633286	-0.657864	4.036760
Ni	-0.012771	-0.006447	0.000064	Ni	1.312447	-1.699342	-1.107749
Ni	1.770046	-3.540865	-3.062323	Ni	-2.232102	0.363036	-0.843951
Ni	-4.163715	2.456243	-1.539948	Ni	-0.386600	2.072260	-1.180537
Ni	4.077965	-2.348262	1.488578	Ni	-1.312447	1.699343	1.107747
Ni	-2.042132	-0.525834	1.191610	Ni	-2.720002	3.503052	2.313772
Ni	-0.851068	1.689804	1.477245	Ni	2.720002	-3.503049	-2.313776
Ni	1.603151	1.311953	1.167624	Ni	-0.583624	-0.360163	-5.039162
Ni	-0.433415	0.805484	-4.920565	Ni	0.786897	-4.281679	2.464010
Ni	0.240597	2.273871	-0.738324	Pt	4.271712	0.415298	-0.623828
Pt	3.006331	-2.940144	-0.838700	Pt	0.848634	4.202763	-0.407288
Pt	3.812365	1.924521	-0.019242	Pt	1.900332	0.827788	-1.465413
Pt	-3.819524	-0.141439	-2.055894	Pt	-0.289622	-0.179017	-2.515552
Pt	0.808802	3.178689	2.783251	Pt	1.777144	-3.944962	0.076132
Pt	-0.573628	4.168197	0.826422	Pt	-1.900331	-0.827788	1.465413
Pt	-2.097770	1.195897	-0.761609	Pt	2.626558	-0.247347	3.442263
Pt	1.972775	3.767752	0.461212	Pt	3.150844	2.903440	-0.671846
Pt	1.920548	0.985759	3.720818	Pt	3.317928	-0.974761	-2.622889
Pt	-2.982884	3.016213	0.810616	Pt	3.715065	-2.160240	-0.284488
Pt	-1.934627	-0.983079	-3.716341	Pt	1.505688	2.240797	3.394244
Pt	-0.817315	-3.186988	-2.774079	Pt	-3.150842	-2.903442	0.671850
Pt	-2.295962	1.614535	-3.282389	Pt	1.080996	-2.003165	-3.695556
Pt	3.015356	-1.248216	-2.802552	Pt	-0.730074	2.017112	-3.773143
Pt	-2.365311	-2.980728	2.087110	Pt	-1.505692	-2.240797	-3.394242

Pt	-0.691487	1.374539	4.034941	Pt	-0.848631	-4.202764	0.407286
Pt	3.782915	0.197233	1.987755	Pt	-1.777142	3.944963	-0.076136
Pt	-0.037943	-2.792714	3.294169	Pt	0.289621	0.179017	2.515552
Pt	0.648979	-4.194392	-0.798835	Pt	-4.271712	-0.415297	0.623831
Pt	1.903610	0.944715	-3.740120	Pt	2.739091	-2.553350	2.127692
Pt	4.199150	-0.652101	-0.492364	Pt	-0.127343	3.809656	2.004891
Pt	2.317659	-1.534896	3.264727	Pt	-1.080999	2.003166	3.695554
Pt	2.389010	2.918418	-2.018907	Pt	-1.506854	-3.045516	2.700476
Pt	0.662845	-1.388999	-4.034796	Pt	1.506858	3.045515	-2.700476
Pt	-3.027162	1.246257	2.793484	Pt	-3.715065	2.160241	0.284487
Pt	-0.277358	-2.394886	0.773597	Pt	0.127343	-3.809654	-2.004894
Pt	-1.936509	-3.855707	-0.467892	Pt	-3.317928	0.974764	2.622888
Pt	0.115044	2.762949	-3.277006	Pt	-2.626560	0.247345	-3.442261
Pt	-4.248326	0.733540	0.499109	Pt	0.730074	-2.017113	3.773141
Pt	-1.909850	-0.957652	3.735745	Pt	-2.739090	2.553349	-2.127693

Atom	Coordinates for Pt ₃₁ Ni ₂₄			Atom	Coordinates for Pt ₃₂ Ni ₂₃		
	X	Y	Z		X	Y	Z
Ni	-4.902979	1.009912	0.019044	Ni	-1.213946	0.344056	-4.944725
Ni	1.234859	-4.708185	-0.820042	Ni	0.466471	-2.205271	0.836266
Ni	-3.042210	-3.521988	2.055292	Ni	1.682560	0.969980	-1.456163
Ni	-0.901308	1.204014	-1.893636	Ni	1.168178	-1.500006	-1.503369
Ni	-2.052623	1.066574	4.514895	Ni	-2.429384	3.172184	3.138407
Ni	2.844166	2.562866	3.181363	Ni	-0.950762	4.567508	-1.761397
Ni	-2.367859	0.490957	-0.008096	Ni	-2.679925	-3.749902	-1.915636
Ni	-0.635204	2.291702	0.372603	Ni	2.698327	3.737553	1.902187
Ni	0.896644	-1.226048	1.881673	Ni	-0.452752	2.215186	-0.859991
Ni	-1.371534	-1.262974	-1.544383	Ni	4.861304	-1.037707	1.154656
Ni	3.027165	3.536444	-2.016174	Ni	-4.764731	0.997672	-1.084952
Ni	-1.832167	2.502982	-3.929088	Ni	3.430613	1.952260	-2.974772
Ni	-0.763761	-3.607435	-1.958270	Ni	0.961678	-4.578155	1.740431
Ni	4.897352	-1.036487	-0.033476	Ni	0.556134	-0.170310	2.342660
Ni	-2.781260	-2.595860	-3.144910	Ni	2.387164	-3.047133	-3.068021
Ni	0.615479	-2.308067	-0.394133	Ni	-2.305302	0.480501	-0.530141
Ni	-0.001593	-0.007525	-0.004086	Ni	-1.288773	-1.806055	-0.925950
Ni	-2.587283	-1.250851	3.332932	Ni	1.139950	-0.345301	4.843182
Ni	2.363194	-0.512990	-0.003867	Ni	-1.655635	-0.985285	1.425877
Ni	-1.297731	4.741346	0.783685	Ni	2.874430	-0.539832	-2.985352
Ni	1.381071	1.231218	1.539792	Ni	0.008534	0.002095	-0.008026
Ni	2.590643	1.266730	-3.324313	Ni	1.314490	1.813242	0.914269
Ni	1.826543	-2.529562	3.914658	Ni	-3.448555	-2.042359	2.972231
Ni	2.077939	-1.032504	-4.527669	Pt	3.121389	2.918625	-0.559627
Pt	3.126683	-2.940649	-0.422914	Pt	3.661044	-2.138799	-0.959625
Pt	3.542811	-1.072394	-2.265793	Pt	-0.629236	1.414048	4.057717
Pt	1.575760	-3.694730	1.571105	Pt	1.049794	-2.499241	3.342442
Pt	-1.602298	3.673390	-1.593224	Pt	-2.900805	2.825654	-1.436947
Pt	0.852286	4.207286	-0.611812	Pt	1.940829	1.724464	3.423917
Pt	-2.368652	-0.050312	-3.604077	Pt	0.901331	4.213096	0.056677
Pt	-0.564945	-3.069644	3.015540	Pt	-0.141667	-3.472080	-2.531621
Pt	1.514472	1.754294	-1.022279	Pt	4.218597	0.536675	-0.907310
Pt	0.074245	0.751938	-4.273691	Pt	0.170175	3.513732	2.546819
Pt	-3.147355	2.922163	0.393249	Pt	-0.864297	-4.212385	-0.093404
Pt	3.927932	0.764700	1.608138	Pt	3.822731	1.403716	1.561951
Pt	-1.033979	0.515200	2.254259	Pt	1.125295	1.240219	-4.012900
Pt	-3.529894	1.089366	2.252774	Pt	-3.101460	-2.930493	0.534060
Pt	-3.417580	1.777440	-1.985978	Pt	-3.048374	0.687417	-3.030111
Pt	0.429751	1.848106	3.898946	Pt	-3.661716	2.103762	1.013191
Pt	2.980112	3.088131	0.619953	Pt	-1.101917	2.523785	-3.382258

Pt	1.037550	-0.515841	-2.261010	Pt	-1.204303	1.580448	1.557577
Pt	2.382877	0.013470	3.594612	Pt	-0.589360	0.171089	-2.463525
Pt	-0.867532	-4.199250	0.673259	Pt	3.017460	-0.692207	3.059817
Pt	-4.033513	-1.245308	1.007640	Pt	2.422340	-0.513897	0.560137
Pt	1.745359	-2.928827	-2.686129	Pt	-1.257725	-3.349836	2.385118
Pt	-1.519166	-1.758953	1.026153	Pt	2.923162	-2.869981	1.476981
Pt	-0.402443	-1.799166	-3.929458	Pt	-1.166160	-1.218926	3.954749
Pt	3.409932	-1.813572	1.966361	Pt	-2.984880	0.537136	3.094755
Pt	-0.056929	-0.737284	4.263219	Pt	1.280603	3.337295	-2.407724
Pt	-3.919577	-0.804391	-1.610059	Pt	-3.780005	-1.400742	-1.506542
Pt	4.024590	1.247212	-0.984381	Pt	-4.158389	-0.538367	0.950634
Pt	-1.698075	2.967263	2.667182	Pt	-1.988998	-1.752751	-3.454691
Pt	0.783743	3.701822	2.009513	Pt	-1.701894	3.939518	0.667314
Pt	-3.015336	-3.069587	-0.570070	Pt	1.697104	-3.890293	-0.685547
Pt	0.551626	3.073858	-2.994824	Pt	0.569260	-1.435599	-4.063691

Atom	Coordinates for Pt ₃₃ Ni ₂₂			Atom	Coordinates for Pt ₃₄ Ni ₂₁		
	X	Y	Z		X	Y	Z
Ni	3.696659	1.280048	-3.106849	Ni	4.973885	-0.111506	0.393704
Ni	-0.533016	0.053086	-2.356422	Ni	-1.008833	-1.634560	-1.478811
Ni	0.344604	-4.510601	2.099220	Ni	0.909565	-0.833076	2.070538
Ni	0.168581	-2.185950	1.016291	Ni	-0.000489	-0.004248	0.004987
Ni	-0.940522	1.762911	1.365990	Ni	-0.310483	-2.697913	3.166675
Ni	-3.245490	-3.541555	-1.675993	Ni	2.415275	-0.060431	0.198020
Ni	-3.688104	-1.288942	3.105778	Ni	1.007399	1.622092	1.493445
Ni	-2.224468	0.761892	-0.574130	Ni	-1.056688	2.179241	0.112000
Ni	-1.103524	0.110862	-4.862196	Ni	-4.974002	0.110494	-0.392515
Ni	1.549826	1.676959	0.790882	Ni	1.242113	-0.568008	-2.003185
Ni	4.590328	-1.571953	1.189186	Ni	2.190914	-4.606046	-0.149934
Ni	1.781507	0.613332	-1.495431	Ni	-1.888418	1.777146	-4.360546
Ni	1.937281	-3.640382	-2.819731	Ni	2.531279	3.808971	-2.196157
Ni	1.143532	-0.119689	4.956085	Ni	-2.416709	0.047965	-0.183389
Ni	-0.003267	0.001256	0.001514	Ni	-2.076226	-3.352580	-3.058832
Ni	-1.791975	-0.618338	1.504941	Ni	-1.213639	-1.809153	1.030776
Ni	0.935935	-1.751468	-1.357440	Ni	2.552071	-1.134296	-4.146528
Ni	-0.334896	4.598466	-2.150982	Ni	0.326845	2.840105	-3.333573
Ni	-1.925078	3.641694	2.818064	Ni	-2.593104	1.111238	4.251965
Ni	-4.583628	1.568975	-1.199167	Ni	-2.164468	4.502345	0.193282
Ni	2.211012	-0.757364	0.569281	Ni	2.076110	3.351564	3.060024
Ni	3.195549	3.462603	1.633966	Pt	0.351863	0.278552	-4.304469
Pt	1.471567	4.083726	-0.235112	Pt	2.330222	3.636685	0.465083
Pt	-2.195791	-1.714617	-3.337094	Pt	1.254807	1.900376	-1.104516
Pt	2.501863	-3.085258	1.656094	Pt	0.047545	-4.028441	-1.671063
Pt	-0.738652	2.360544	-3.574889	Pt	-2.006870	-0.826935	-3.763026
Pt	3.302039	-2.639036	-0.823616	Pt	-0.041589	3.989643	1.649389
Pt	-2.861842	1.198211	2.997558	Pt	0.165220	4.214604	-0.969370
Pt	-0.169367	2.289403	-1.069149	Pt	-2.078556	3.183096	-2.068179
Pt	2.926882	-0.866433	3.086774	Pt	-2.413754	2.873347	2.231550
Pt	-0.627689	-3.637726	-2.284399	Pt	-3.578743	-1.634582	-1.766374
Pt	-1.451286	-4.090583	0.241878	Pt	-2.638450	-1.369262	3.207187
Pt	-3.982294	-0.967057	-1.453701	Pt	2.411473	-2.893184	-2.208265
Pt	2.211717	1.721663	3.322919	Pt	-2.527609	-3.747526	2.120347
Pt	-4.199147	0.155593	0.976810	Pt	2.115020	-3.179037	2.131377
Pt	-1.695127	-2.938893	2.638155	Pt	1.899266	-1.712409	4.288248
Pt	3.497837	2.394570	-0.742935	Pt	-0.933164	0.894523	-2.175996
Pt	0.566351	-0.058519	2.467581	Pt	0.238828	-2.275762	-3.661056
Pt	1.166049	-4.126715	-0.362403	Pt	-1.294917	0.547631	2.130141
Pt	0.746002	-2.377485	3.562113	Pt	3.581329	1.657041	1.740013

Pt	0.431590	-1.782807	-3.893086	Pt	-0.224239	-4.254437	0.985810
Pt	3.947802	0.958583	1.420127	Pt	3.822714	1.853040	-0.908199
Pt	4.193555	-0.145742	-0.969106	Pt	2.595638	1.310061	-3.205662
Pt	-1.159393	4.174355	0.371055	Pt	2.029408	0.817039	3.750410
Pt	-1.617783	-1.761361	-0.832778	Pt	3.662237	-2.366696	0.099101
Pt	-3.312309	2.635801	0.832084	Pt	-3.816455	-1.870413	0.887610
Pt	2.849196	-1.193862	-3.000515	Pt	-0.246001	2.303959	3.695173
Pt	1.317440	0.694637	-4.037651	Pt	3.493824	-0.933056	2.402960
Pt	0.643189	3.600648	2.256558	Pt	1.092602	-2.305644	-0.066676
Pt	-2.882867	0.851584	-3.071528	Pt	-3.625279	2.342154	-0.105594
Pt	-3.522483	-2.434469	0.756695	Pt	-0.299190	-0.293862	4.352754
Pt	-0.418880	1.811131	3.930835	Pt	-3.499362	0.956713	-2.389747
Pt	-2.524439	3.110107	-1.691613	Pt	-3.860694	0.642218	1.925007
Pt	-1.324115	-0.720530	4.078563	Pt	-2.352037	-3.620510	-0.459838
Pt	1.729537	2.954696	-2.669082	Pt	3.822517	-0.628269	-1.906076

Atom	Coordinates for Pt ₃₅ Ni ₂₀			Atom	Coordinates for Pt ₃₆ Ni ₁₈		
	X	Y	Z		X	Y	Z
Ni	-1.387353	-0.904510	-1.752055	Ni	-0.767650	-4.291846	0.538415
Ni	3.634704	3.230218	-1.450966	Ni	0.729654	4.079397	-0.511763
Ni	-0.545505	1.473435	-1.846141	Ni	-4.907972	0.862463	-0.113791
Ni	0.538384	-1.488981	1.840689	Ni	-2.985972	-3.654378	1.868610
Ni	1.080247	-0.478957	-2.121020	Ni	-1.286987	-1.240784	-1.618802
Ni	2.224403	-0.966971	-4.353888	Ni	2.713136	2.711909	3.371925
Ni	-3.180533	-2.482512	-1.067924	Ni	-1.765951	2.583689	-4.036261
Ni	-0.374180	2.333440	0.543724	Ni	-1.063406	0.464438	2.132795
Ni	-4.807241	1.701462	-0.223727	Ni	-2.389519	0.426476	-0.060530
Ni	-1.109036	3.044753	-3.796178	Ni	-0.714735	2.269703	0.392854
Ni	-0.007982	-0.003406	-0.001960	Ni	1.065684	-0.451699	-2.134394
Ni	-1.087497	0.463169	2.116518	Ni	4.907591	-0.864592	0.114058
Ni	-1.723501	-1.531086	0.705622	Ni	1.429203	1.724799	-0.893968
Ni	2.935086	1.926138	3.664144	Ni	0.854089	-1.179493	1.922428
Ni	-2.224922	0.964757	4.362388	Ni	0.001869	0.010449	-0.001311
Ni	2.256831	-0.843229	0.093699	Ni	-2.193311	0.940175	4.376121
Ni	0.685828	-4.924357	-1.161644	Ni	1.475875	-4.788401	-0.809457
Ni	3.339050	2.622564	1.125312	Ni	2.391798	-0.413737	0.058933
Ni	-0.731171	4.816760	1.128010	Ni	2.192929	-0.942303	-4.375855
Ni	1.110821	-3.042670	3.787819	Pt	-3.416623	1.736657	-2.090155
Pt	-2.955847	-1.139626	2.970399	Pt	-2.673675	-2.621520	-3.344451
Pt	-1.482427	-4.111957	0.212520	Pt	-3.255660	2.849022	0.369487
Pt	-0.554401	-1.046755	4.145524	Pt	1.758583	-2.494640	3.986278
Pt	-3.547924	1.377202	2.132534	Pt	0.566825	3.775284	2.142987
Pt	-3.880686	-0.078004	-2.018048	Pt	-1.496575	4.694849	0.823590
Pt	1.818173	1.612833	-0.713165	Pt	0.664993	3.111660	-3.006960
Pt	0.578519	1.064993	-4.137576	Pt	1.357572	1.365162	1.683736
Pt	3.537068	-1.369628	-2.107595	Pt	2.273955	0.076423	3.756213
Pt	-2.408003	0.842273	-0.114619	Pt	3.260446	-2.850612	-0.357758
Pt	2.971090	-2.424601	2.030421	Pt	-0.252067	-1.814682	-3.934456
Pt	1.496374	-2.972703	-2.823565	Pt	3.890445	0.912426	1.757827
Pt	0.335501	-2.466267	-0.582878	Pt	1.666536	-3.670519	1.649249
Pt	1.471591	0.966809	1.820792	Pt	-0.880679	1.301088	-2.018219
Pt	-0.931158	3.992595	-1.356011	Pt	-0.214391	-0.793217	4.261618
Pt	0.331863	1.471383	4.075566	Pt	2.641840	1.350112	-3.170276
Pt	-1.271843	-3.166814	2.683148	Pt	4.013754	1.389385	-0.901199
Pt	4.713339	-1.713231	0.207884	Pt	0.237743	0.807863	-4.283559
Pt	-1.112981	-3.423315	-2.488599	Pt	-2.269884	-0.053652	-3.759068
Pt	3.892821	0.058578	1.951529	Pt	2.923492	3.176313	0.728483
Pt	-1.498234	2.935573	2.790043	Pt	-1.691672	3.710632	-1.592456

Pt	-2.975765	2.443698	-2.050684	Pt	-4.019292	-1.392006	0.889998
Pt	2.036837	-0.587840	3.791645	Pt	0.727791	-2.395073	-0.398579
Pt	0.923291	-4.040923	1.366414	Pt	-3.613095	0.903881	2.168881
Pt	1.422731	4.084203	-0.170355	Pt	-2.888625	-3.162041	-0.792099
Pt	1.254474	3.191118	-2.669907	Pt	-2.634455	-1.352363	3.180447
Pt	-2.030669	0.584897	-3.793855	Pt	1.875608	-2.890255	-2.648208
Pt	-0.346854	-1.442645	-4.079712	Pt	-1.484021	-1.832919	0.928983
Pt	2.961436	1.135599	-2.968358	Pt	3.393937	-1.710310	2.095849
Pt	-2.865918	-1.860557	-3.642670	Pt	-0.629404	-3.736244	-2.148117
Pt	-2.786430	3.330291	0.467933	Pt	-0.592686	-3.096316	3.005267
Pt	4.247259	0.719245	-0.639867	Pt	0.236078	1.841222	3.951229
Pt	-3.566724	-3.166851	1.481127	Pt	2.972864	3.558894	-1.859030
Pt	1.067777	3.422572	2.424820	Pt	3.608159	-0.931475	-2.165420
Pt	2.780373	-3.363740	-0.477290	Pt	-3.860394	-0.897590	-1.768684
Pt	-4.251084	-0.768420	0.690036	Pt	-1.883747	2.888295	2.638563

Atom	Coordinates for Pt ₃₇ Ni ₁₈			Atom	Coordinates for Pt ₃₈ Ni ₁₇		
	X	Y	Z		X	Y	Z
Ni	-1.678938	-0.585266	1.651861	Ni	-1.366850	-1.727320	-0.978594
Ni	2.278862	-0.672132	0.495017	Ni	1.774050	0.891569	-1.377939
Ni	1.679381	0.587747	-1.650529	Ni	0.002858	0.000065	0.004963
Ni	0.679095	0.068392	2.318185	Ni	-2.274746	0.597389	-0.566440
Ni	3.453852	1.205514	-3.384788	Ni	1.380863	1.739547	0.981151
Ni	-0.000674	-0.003766	-0.002024	Ni	-2.299988	3.205036	3.047462
Ni	0.685358	3.829480	2.057199	Ni	2.829325	3.575062	2.016270
Ni	-4.680742	1.384048	-1.007088	Ni	1.117572	-1.563775	-1.489095
Ni	0.595651	-4.479852	2.374221	Ni	0.327313	-2.243753	0.831584
Ni	-1.435279	-0.211622	-4.894486	Ni	-1.030100	0.460712	-4.957015
Ni	0.903370	-1.807908	-1.314024	Ni	-3.703479	-1.917352	2.943239
Ni	3.231735	3.709156	1.275072	Ni	2.289665	-3.198445	-3.049798
Ni	-0.290084	2.105233	-1.150512	Ni	4.777223	-1.302063	1.241864
Ni	-1.883992	3.821436	2.770371	Ni	-1.123516	1.558032	1.484120
Ni	-1.540888	-1.754263	-0.599579	Ni	0.486992	-0.204681	2.353216
Ni	-2.278418	0.674611	-0.493684	Ni	-0.693384	4.715936	-1.765734
Ni	-3.452407	-1.197436	3.389127	Ni	-0.872476	2.635823	-3.419251
Ni	4.682187	-1.375974	1.011427	Pt	-0.288997	-3.457430	-2.598052
Pt	0.261373	-2.041514	-3.871701	Pt	0.267474	3.451244	2.568841
Pt	-4.133955	0.101129	1.214440	Pt	0.665537	-1.401672	-4.062956
Pt	1.321400	4.113114	-0.600619	Pt	-3.852371	-1.189208	-1.650448
Pt	-3.128986	0.607837	-2.975196	Pt	-2.782895	3.019287	-1.478489
Pt	-2.725338	1.309093	3.125110	Pt	-1.976956	-1.618727	-3.547773
Pt	-0.593944	4.394377	-2.361965	Pt	1.945015	1.608795	3.523501
Pt	2.360833	1.928625	3.119525	Pt	3.665701	1.871645	-2.882253
Pt	-3.397938	-2.461555	1.082191	Pt	0.868693	-2.586553	3.375328
Pt	-1.033099	-0.522585	4.183509	Pt	3.853373	1.185663	1.658406
Pt	3.402979	2.477256	-1.091077	Pt	-3.043273	0.687968	3.046609
Pt	-4.017762	-1.158925	-1.136161	Pt	2.387784	-0.655158	0.621462
Pt	1.412272	0.178084	4.818296	Pt	-3.575758	2.275631	0.939041
Pt	-2.386816	-1.983394	-3.097648	Pt	-0.515596	0.245854	-2.480354
Pt	4.029359	1.160841	1.150751	Pt	-3.328032	-2.819183	0.423034
Pt	1.882054	-3.758202	-2.732700	Pt	-0.350910	2.351829	-0.897860
Pt	-0.928556	1.917686	1.385522	Pt	2.925641	-0.856535	3.152199
Pt	0.297591	-2.241989	1.186462	Pt	2.756323	-3.064086	1.508388
Pt	4.137662	-0.080413	-1.203310	Pt	3.041931	-0.672397	-3.020916
Pt	1.056764	0.515971	-4.198670	Pt	-1.518840	4.018581	0.678943
Pt	-1.029437	2.161968	-3.684247	Pt	1.014073	-0.417984	4.893788
Pt	-0.718070	-0.107463	-2.448591	Pt	-1.501966	-3.367815	2.375642
Pt	2.723506	-1.306879	-3.106599	Pt	-2.836198	-3.594351	-2.040306

Pt	-1.269375	4.169977	0.156651	Pt	4.297012	0.309224	-0.862486
Pt	1.605018	1.862079	0.644972	Pt	-4.296211	-0.298947	0.870619
Pt	1.029044	-2.164165	3.683067	Pt	1.387726	1.177491	-3.967117
Pt	-1.365752	-4.129275	0.556745	Pt	-1.339492	-1.166499	4.009805
Pt	-2.683261	2.945419	-1.722429	Pt	3.580903	-2.300100	-0.949407
Pt	3.100636	-0.613312	2.975241	Pt	1.522231	-4.006459	-0.663122
Pt	-3.207265	-3.646504	-1.245117	Pt	-1.853629	-0.961205	1.475653
Pt	1.450474	2.854693	-2.930699	Pt	3.313409	2.769639	-0.444822
Pt	3.343329	-2.609510	-0.888248	Pt	-0.642669	1.421842	4.043792
Pt	-0.229940	1.985487	3.876794	Pt	1.095104	4.205902	0.152498
Pt	2.708758	-2.955884	1.713823	Pt	-4.709431	1.271117	-1.198777
Pt	-0.675350	-3.773559	-2.027160	Pt	1.557700	3.329861	-2.348975
Pt	-1.476992	-2.864015	2.937297	Pt	0.688710	-4.656770	1.731272
Pt	1.282437	-4.187397	-0.217308	Pt	-1.093094	-4.209562	-0.161733
Pt	-3.351721	2.625507	0.883284	Pt	-2.949344	0.877287	-3.092976

Atom	Coordinates for Pt ₃₉ Ni ₁₆			Atom	Coordinates for Pt ₄₀ Ni ₁₅		
	X	Y	Z		X	Y	Z
Ni	2.416129	-0.113715	0.048838	Ni	2.576709	3.684005	1.937925
Ni	-0.002439	-0.001627	0.003327	Ni	-0.673246	0.167302	-2.364071
Ni	0.993782	-2.171743	-0.334852	Ni	1.025274	-0.393197	4.948242
Ni	2.315104	3.047747	3.183699	Ni	-2.887632	-3.815052	-2.003626
Ni	-1.129588	-1.488472	-1.556382	Ni	0.334111	-2.264884	0.847076
Ni	-2.311608	-3.045416	-3.188467	Ni	2.320468	-3.193958	-3.166540
Ni	2.463808	3.957102	-2.031378	Ni	1.561589	0.955614	-1.435151
Ni	-1.167844	-1.886841	0.956170	Ni	-1.814428	-0.992359	1.418672
Ni	-1.040186	1.031417	-1.925406	Ni	1.200782	1.789323	0.939776
Ni	-0.992575	2.172548	0.333204	Ni	-1.079823	4.666420	-1.776184
Ni	-1.089627	0.381193	2.122662	Ni	0.811192	-4.598698	1.732585
Ni	-5.099606	0.209437	-0.047752	Ni	2.175146	-0.519062	0.525836
Ni	1.129778	1.488599	1.556122	Ni	-0.121260	-0.020712	-0.004845
Ni	2.300948	-0.779189	-4.466990	Ni	-2.428349	0.482102	-0.542038
Ni	2.137464	-2.185075	4.087643	Ni	-1.291075	1.477208	1.484861
Ni	2.424853	1.617287	-3.307115	Pt	0.936745	-2.562849	3.378115
Pt	-2.431144	-3.914782	1.984670	Pt	3.564041	-2.169037	-1.004497
Pt	-0.032584	-1.946783	-3.890139	Pt	2.920104	-0.750047	3.060473
Pt	-2.139226	3.398091	-1.691879	Pt	-1.832048	3.952169	0.713302
Pt	1.239836	1.970676	-1.028773	Pt	-3.978704	-1.386434	-1.588726
Pt	5.018633	-0.211013	0.073277	Pt	-3.130510	0.534395	3.097330
Pt	2.268394	0.473436	3.694421	Pt	-1.023627	-4.291937	-0.123156
Pt	-3.666159	1.197777	-2.103524	Pt	0.450060	-0.207155	2.466357
Pt	-2.266874	-0.455341	-3.672609	Pt	1.086843	-1.614425	-1.588083
Pt	-0.087567	-0.680371	4.335545	Pt	4.098158	0.486417	-0.944796
Pt	-2.553525	0.100315	-0.022324	Pt	1.084939	1.207721	-4.006060
Pt	0.128629	3.861129	1.967215	Pt	-3.788203	2.109404	1.006253
Pt	-3.728087	0.510091	2.255204	Pt	-3.141053	0.701647	-3.063558
Pt	0.037196	0.699654	-4.310496	Pt	-1.346431	-1.272386	4.011098
Pt	0.125419	3.086723	-3.081978	Pt	-4.902318	1.023526	-1.120934
Pt	-0.190339	-4.300646	0.649220	Pt	-0.601294	2.323197	-0.890709
Pt	-3.623870	2.439678	0.333346	Pt	3.037524	2.904562	-0.534897
Pt	-2.389379	-1.593626	3.258735	Pt	-2.088662	-1.738042	-3.536853
Pt	0.025528	1.946980	3.876594	Pt	-0.282329	-3.585402	-2.619993
Pt	1.067143	-1.091676	2.049512	Pt	3.378179	2.013808	-2.968584
Pt	3.612568	-2.415427	-0.317528	Pt	-1.258057	0.359900	-4.886476
Pt	2.217581	-2.716375	-2.612410	Pt	-1.188593	2.531391	-3.415885
Pt	3.740037	-0.508608	-2.189890	Pt	2.908696	-0.564090	-3.124835
Pt	3.742432	1.439482	1.660183	Pt	-1.439468	-3.385721	2.389675
Pt	2.140420	-3.429083	1.689843	Pt	0.509763	-1.426663	-4.117541

Pt	-2.258212	0.787158	4.410868	Pt	-3.621507	-2.053689	2.960261
Pt	-2.056695	4.519418	0.696878	Pt	0.020768	3.453293	2.564510
Pt	3.667119	-1.197138	2.102215	Pt	-2.524241	3.102357	3.097674
Pt	0.184168	4.318252	-0.663195	Pt	-1.496308	-1.920661	-1.009647
Pt	3.825352	1.876520	-0.957406	Pt	-3.305310	-2.990062	0.528835
Pt	-3.818354	-1.924732	0.991513	Pt	1.844286	1.697376	3.481826
Pt	2.437810	3.550977	0.609794	Pt	1.578572	-3.981395	-0.702697
Pt	-2.423765	-3.546513	-0.605780	Pt	1.210251	3.388793	-2.417257
Pt	-3.753730	-1.464100	-1.668657	Pt	0.786429	4.241644	0.106140
Pt	-0.183445	-3.118937	3.079505	Pt	3.690930	1.326493	1.560674
Pt	-0.115989	-3.852698	-1.984455	Pt	4.654705	-1.064372	1.114306
Pt	-2.127196	2.139493	-4.016738	Pt	-4.348257	-0.530111	0.934465
Pt	1.154962	-0.373436	-2.237351	Pt	2.793714	-2.878821	1.446451
Pt	2.061024	-4.516530	-0.702785	Pt	-0.776504	1.413106	4.083185
Pt	-2.196505	2.708711	2.606055	Pt	-3.072395	2.871991	-1.472909

Atom	Coordinates for Pt ₄₁ Ni ₁₄			Atom	Coordinates for Pt ₄₂ Ni ₁₃		
	X	Y	Z		X	Y	Z
Ni	-1.461337	0.714396	1.790882	Ni	1.776269	0.710454	-1.490762
Ni	0.573059	-2.355881	4.483111	Ni	-0.191701	2.229248	-0.919544
Ni	-1.146343	4.970867	0.164442	Ni	-1.553272	-1.661174	-0.842669
Ni	0.534877	-2.362865	-0.087913	Ni	3.252614	3.496009	1.800590
Ni	-2.165325	-2.710009	-3.742722	Ni	-2.230426	0.777068	-0.522708
Ni	-1.758786	-1.527730	0.650341	Ni	-1.195686	0.327377	-4.944777
Ni	1.451399	-0.710300	-1.794369	Ni	-0.000465	0.001983	0.004866
Ni	-0.271337	1.128068	-2.145572	Ni	2.229279	-0.772180	0.534706
Ni	1.748910	1.532274	-0.653601	Ni	-3.726591	-1.475267	3.159084
Ni	1.020745	1.299529	1.775101	Ni	0.190554	-2.224360	0.931541
Ni	4.759893	-1.287125	1.290192	Ni	0.570386	-0.158974	2.348587
Ni	-2.262532	0.608914	-0.605698	Ni	-0.932977	1.704832	1.445537
Ni	-0.003827	0.004455	-0.006491	Ni	1.959661	-3.584483	-3.049405
Ni	-0.564158	2.305480	-4.383815	Pt	2.561020	-3.175432	1.536950
Pt	1.395593	0.199934	4.154094	Pt	-1.179289	4.161924	0.557648
Pt	4.264831	1.000947	-0.048782	Pt	2.964576	-0.975464	3.046812
Pt	-2.967183	-3.003613	-1.183290	Pt	-4.264252	0.084471	1.021246
Pt	-4.685468	1.272956	-1.279202	Pt	4.627471	-1.598580	1.099179
Pt	1.296573	4.142056	-0.629217	Pt	2.241417	1.590609	3.421444
Pt	3.630250	3.186374	-1.358994	Pt	-0.389803	4.621622	-1.914630
Pt	2.107199	-3.246979	-1.989949	Pt	-0.592418	0.155629	-2.474012
Pt	-3.642024	-3.176830	1.346787	Pt	1.628169	1.751270	0.903933
Pt	1.568031	2.805126	-2.920312	Pt	2.879009	-1.042377	-3.142498
Pt	0.876405	-3.713638	2.163308	Pt	-3.210355	-3.440272	-1.755900
Pt	-0.460387	2.121740	3.774377	Pt	3.376905	-2.622460	-0.967296
Pt	2.120573	2.682474	3.677901	Pt	0.975288	-1.787944	-1.532313
Pt	2.718494	-1.857499	2.943850	Pt	-0.677948	-3.575993	-2.450140
Pt	-0.866619	3.683710	-2.174782	Pt	-4.628388	1.602485	-1.089593
Pt	0.520080	3.882988	1.981037	Pt	1.302894	0.911622	-4.089248
Pt	-1.084643	-1.352650	-1.873360	Pt	-3.531293	-2.518796	0.680220
Pt	3.486840	0.735222	2.558787	Pt	-1.928711	3.528786	3.004579
Pt	-0.510804	-3.887636	-1.971782	Pt	1.434304	4.143543	-0.087973
Pt	-3.398765	-0.865419	2.588933	Pt	0.389386	-1.660093	-4.074505
Pt	-3.503276	-0.694688	-2.550472	Pt	4.232583	-0.072654	-1.019708
Pt	3.011594	-1.476926	-3.731156	Pt	3.532684	2.512865	-0.694776
Pt	1.115679	-4.892261	-0.175273	Pt	0.794455	-2.521238	3.469223
Pt	3.385119	0.872764	-2.597282	Pt	-3.349410	2.616151	0.980060
Pt	-3.023473	1.485713	3.718563	Pt	-0.796630	2.551707	-3.474280
Pt	-1.378380	-0.173831	-4.137064	Pt	1.671947	3.101912	-2.557847
Pt	-3.933698	1.413521	1.245791	Pt	0.636998	3.579701	2.457691

Pt	0.296020	-1.177956	2.239745	Pt	-2.254064	-1.621995	-3.396889
Pt	3.944432	-1.414163	-1.277318	Pt	4.026269	0.930135	1.468986
Pt	1.250603	0.412425	-4.137449	Pt	1.180232	-4.187147	-0.539717
Pt	2.375989	-0.648382	0.656235	Pt	0.388887	-4.617717	1.924213
Pt	-1.270256	-0.412366	4.174805	Pt	-2.868473	1.082761	3.140027
Pt	-2.677705	1.819081	-2.876420	Pt	-1.865938	-0.737577	1.584057
Pt	-0.575310	2.486610	0.079622	Pt	-2.560764	3.174337	-1.539635
Pt	2.934626	2.990019	1.182734	Pt	-2.993302	0.987019	-3.046699
Pt	-4.250656	-0.975663	0.030443	Pt	1.176199	-0.320550	4.869657
Pt	0.466439	-2.115327	-3.812269	Pt	-0.383377	1.634476	4.011629
Pt	-2.135705	3.263920	2.004924	Pt	-3.996126	-0.935449	-1.454561
Pt	-1.287740	-4.114726	0.601965	Pt	-1.435490	-4.110015	0.083576
Pt	-2.992415	3.156078	-0.591636	Pt	-1.672286	-3.128937	2.578203
Pt	2.967400	-3.180244	0.567037	Pt	3.674028	1.463466	-3.095938
Pt	-1.590833	-2.828831	2.945580	Pt	-1.264053	-0.906332	4.103780

Atom	Coordinates for Pt ₄₃ Ni ₁₂			Atom	Coordinates for Pt ₄₄ Ni ₁₁		
	X	Y	Z		X	Y	Z
Ni	-0.002436	0.004125	-0.000716	Ni	2.129386	-1.042330	0.533091
Ni	-2.314095	0.717712	-0.123685	Ni	-1.883156	-0.519601	1.445220
Ni	1.222440	-3.027813	3.915282	Ni	0.744871	-1.759432	-1.490912
Ni	0.432426	-2.329683	-0.536193	Ni	1.049850	-0.586827	4.954695
Ni	1.670623	1.603384	-0.702223	Ni	-0.500965	0.275432	-2.361644
Ni	-0.931417	4.895247	1.103953	Ni	0.099745	2.269658	-0.861915
Ni	4.861224	-1.512779	0.267269	Ni	-0.746248	1.768182	1.479831
Ni	1.113857	-0.434586	-2.107291	Ni	1.711048	1.448061	0.921241
Ni	1.343234	1.000154	1.755205	Ni	-0.207046	-4.759423	1.816748
Ni	-1.122402	0.440488	2.097886	Ni	-1.712428	-1.439313	-0.932321
Ni	-1.682236	-1.598760	0.695894	Ni	-0.000296	0.001879	-0.002379
Ni	-0.577733	1.440659	-1.864450	Pt	-3.546963	-2.989183	-1.918794
Pt	-3.051275	2.288227	-2.093248	Pt	4.269981	-0.559393	-0.966485
Pt	0.971454	3.523557	2.432343	Pt	3.025557	-2.973260	-0.995064
Pt	3.100162	-2.314050	2.131287	Pt	-2.762933	1.307357	3.105067
Pt	-2.942096	3.232088	0.419220	Pt	1.021350	3.386712	2.552143
Pt	0.568620	1.061895	-4.193948	Pt	-1.546197	3.652896	3.076289
Pt	-1.306261	-4.151616	0.187933	Pt	-2.339549	-1.232446	-3.472771
Pt	-0.967501	-3.549158	-2.439032	Pt	-1.020533	-3.391876	-2.545601
Pt	2.912774	-3.256493	-0.422679	Pt	2.363920	1.245427	3.478154
Pt	1.156135	3.225083	-2.701448	Pt	-1.478603	-0.866531	4.040762
Pt	2.956973	1.230423	-2.959408	Pt	-1.940280	-3.932752	-0.074446
Pt	3.470544	3.325389	-1.444153	Pt	1.546168	-3.652680	-3.076560
Pt	-4.219531	-0.931687	0.606347	Pt	2.796453	-1.423461	3.068959
Pt	-1.090601	4.002971	-1.436970	Pt	-4.458729	2.203214	-1.143737
Pt	0.619165	-1.515420	1.952975	Pt	-3.880924	-1.087186	3.000152
Pt	-3.237618	-2.774706	-1.120287	Pt	2.795891	-1.332871	-3.137846
Pt	-2.952031	-1.229833	2.964582	Pt	-2.150748	3.547421	-1.507901
Pt	2.427546	-0.762488	0.140007	Pt	-1.034526	0.574731	-4.880358
Pt	3.636567	-1.234616	-2.117862	Pt	0.700492	-4.276774	-0.674744
Pt	-2.061974	0.498079	-3.868546	Pt	-0.684988	4.260327	0.657992
Pt	0.909373	-4.817931	-1.093832	Pt	0.429416	-2.723963	3.450112
Pt	-1.201781	2.987935	-3.851872	Pt	2.168330	-3.508684	1.500793
Pt	-2.839906	-2.077163	-3.695376	Pt	-0.101388	-2.375683	0.915456
Pt	2.787482	2.059934	3.635930	Pt	-0.276848	1.589451	4.078451
Pt	2.064914	-0.459792	3.843517	Pt	4.047724	0.420107	1.556873
Pt	-1.661568	2.931792	2.807336	Pt	1.455627	0.862000	-4.076981
Pt	3.193250	2.743001	1.116049	Pt	3.936492	1.109545	-3.052130
Pt	1.652953	-2.919525	-2.778788	Pt	0.204750	4.688852	-1.786391
Pt	-1.419265	-1.034310	-1.845229	Pt	-4.096614	-0.434964	-1.571049

Pt	-4.785925	1.495651	-0.258638	Pt	4.393636	-2.165144	1.119185
Pt	-0.469622	2.451896	0.549847	Pt	-0.423157	2.684238	-3.399802
Pt	-3.475451	-3.318474	1.447602	Pt	2.097822	2.993947	-2.473681
Pt	1.094344	-4.013609	1.400363	Pt	-2.223372	1.102257	-0.575133
Pt	-1.179520	-3.239828	2.710441	Pt	3.832696	2.109092	-0.549364
Pt	-3.919971	-0.275512	-2.005836	Pt	-2.792944	1.415472	-3.111201
Pt	-3.624570	1.234602	2.091381	Pt	0.261069	-1.571235	-4.063940
Pt	4.234478	0.959234	-0.606592	Pt	1.915629	3.921536	0.066822
Pt	1.327143	4.176163	-0.188954	Pt	1.961792	0.557043	-1.526500
Pt	3.882540	0.296989	2.021281	Pt	-3.785104	-2.086012	0.553130
Pt	2.316232	-0.907065	-4.358770	Pt	-2.106727	-2.951756	2.472597
Pt	0.240265	1.513505	4.076524	Pt	0.523423	-0.301457	2.475351
Pt	-2.316104	0.916077	4.357170	Pt	3.546929	2.989396	1.918525
Pt	-0.235680	-1.524827	-4.129839	Pt	-3.059805	3.007001	1.017432
Pt	-0.578152	-1.044538	4.218244	Pt	-4.268972	0.553005	0.974582

Atom	Coordinates for Pt ₄₅ Ni ₁₀			Atom	Coordinates for Pt ₄₆ Ni ₉		
	X	Y	Z		X	Y	Z
Ni	-1.196400	-1.857198	-1.017829	Ni	1.600447	1.601755	0.877350
Ni	0.000939	0.005774	-0.006473	Ni	0.214021	-2.297476	0.781903
Ni	1.257492	-1.372076	-1.553985	Ni	2.258327	-0.806054	0.383443
Ni	-1.255536	1.383906	1.549874	Ni	-0.860344	1.634651	1.588489
Ni	2.344828	-0.366209	0.511222	Ni	-2.255047	0.809417	-0.395470
Ni	0.575921	-0.213982	2.356918	Ni	-0.672285	0.291834	-2.318172
Ni	-1.194978	0.473484	-4.940056	Ni	-1.597169	-1.598390	-0.889378
Ni	-2.338919	0.376113	-0.516472	Ni	1.721021	0.783678	-1.528067
Ni	1.620608	1.137417	-1.404393	Ni	0.001830	0.001877	-0.006712
Ni	-0.611833	2.222591	-0.760366	Pt	-2.640410	3.302371	-1.258082
Pt	3.003054	3.201898	-0.440188	Pt	0.695275	-0.307738	2.426329
Pt	1.885576	1.747589	3.591457	Pt	-1.794323	-0.819372	1.604434
Pt	-0.597826	0.237926	-2.473193	Pt	4.668032	-1.671894	0.796387
Pt	-1.249844	2.612765	-3.299765	Pt	-3.301521	-3.309704	-1.834611
Pt	2.509711	3.909357	2.112395	Pt	-0.438969	4.805900	-1.662021
Pt	2.594904	-2.842826	-3.224123	Pt	-0.797706	-3.441847	-2.641505
Pt	1.261519	-2.599062	3.335194	Pt	1.141343	-4.179971	-0.855187
Pt	1.252421	1.950503	1.054796	Pt	3.305739	3.314033	1.819137
Pt	-3.063920	0.269303	3.162768	Pt	-3.287357	2.570393	1.262064
Pt	-1.260069	4.596817	-1.585048	Pt	4.196842	-0.026418	-1.207672
Pt	-0.635167	-4.355442	-0.277198	Pt	-3.609293	-1.644657	3.210194
Pt	0.633840	-2.328115	0.802893	Pt	-4.243106	0.041291	1.208347
Pt	0.063360	-3.406031	-2.717487	Pt	0.782190	3.406720	2.605549
Pt	-3.403736	-2.394036	2.952115	Pt	0.198306	-1.408757	-4.178339
Pt	-2.595703	2.859469	3.208451	Pt	-1.381951	0.605407	-4.792117
Pt	-1.969329	3.807016	0.830425	Pt	-0.936965	2.746285	-3.326027
Pt	-1.091952	-3.637629	2.344230	Pt	-0.211021	1.434127	4.167293
Pt	1.185548	-0.446593	4.862067	Pt	3.129415	-1.183417	2.876118
Pt	3.783410	1.583264	1.623403	Pt	-2.392206	-1.380523	-3.382924
Pt	3.799995	-1.840518	-1.102205	Pt	4.070003	0.837901	1.336420
Pt	4.183648	0.816094	-0.944619	Pt	-4.066394	-0.834198	-1.349660
Pt	-3.730416	-1.561906	-1.623037	Pt	3.331959	-2.593166	-1.278173
Pt	-0.722741	1.228155	4.119315	Pt	-1.775089	3.367586	3.280579
Pt	-4.232181	-0.816347	0.932832	Pt	0.439407	-4.737370	1.618031
Pt	-3.102944	0.632784	-3.037881	Pt	-1.142499	4.178786	0.859422
Pt	-0.074786	3.458712	2.736435	Pt	1.804587	-3.405415	-3.346385
Pt	-2.471235	-3.834603	-2.105005	Pt	2.753169	-0.883711	-3.334899
Pt	0.738105	-1.234319	-4.145969	Pt	1.407123	-0.613740	4.866269
Pt	0.617897	4.361306	0.247894	Pt	-2.746516	0.913060	3.330247
Pt	3.161475	-2.756824	1.366832	Pt	1.105861	1.134094	-4.055743

Pt	1.126729	1.457532	-3.985372	Pt	0.900559	-1.698079	-1.670822
Pt	4.848364	-0.759047	1.060947	Pt	-1.598239	-3.289581	2.468170
Pt	3.343588	2.359012	-2.913136	Pt	-3.534310	-2.552868	0.676213
Pt	3.028957	-0.247049	-3.133677	Pt	1.617898	3.271331	-2.482587
Pt	3.078820	-0.619764	3.022621	Pt	1.489253	4.151052	0.105250
Pt	-4.842544	0.772462	-1.078526	Pt	3.551183	1.619207	-3.163535
Pt	-3.002635	-3.204632	0.405784	Pt	-1.133551	-1.162494	4.157302
Pt	-1.691110	-1.197970	1.473608	Pt	0.937256	-2.768515	3.305216
Pt	-1.107167	-1.447656	4.018526	Pt	-4.663812	1.676222	-0.811861
Pt	1.060178	3.542929	-2.294794	Pt	-1.463376	-4.105296	-0.107303
Pt	1.989019	-3.840429	-0.861895	Pt	2.420618	1.410743	3.408251
Pt	-1.877209	-1.743852	-3.568761	Pt	2.606172	-3.268970	1.236182
Pt	1.282321	-4.671900	1.600255	Pt	-3.087470	1.164115	-2.860949
Pt	-3.797714	1.852677	1.089623	Pt	3.501577	2.518219	-0.685698
Pt	-3.114332	2.739159	-1.361428	Pt	-0.218484	2.397569	-0.830692

Atom	Coordinates for Pt ₄₇ Ni ₈			Atom	Coordinates for Pt ₄₈ Ni ₇		
	X	Y	Z		X	Y	Z
Ni	0.085442	-2.337485	0.698766	Ni	-1.107661	0.739967	2.046909
Ni	0.004057	-0.002541	-0.003174	Ni	-0.601885	1.186112	-2.052370
Ni	-2.212460	0.921023	-0.447740	Ni	1.099711	-0.734784	-2.053054
Ni	2.208537	-0.920041	0.439959	Ni	1.371867	1.225420	1.622525
Ni	-1.818053	-0.784909	1.422088	Ni	0.434900	-2.403332	-0.226089
Ni	1.643985	1.493496	1.015817	Ni	-2.326748	0.723195	-0.211147
Ni	1.816266	0.776650	-1.419742	Ni	-0.005954	0.003881	-0.004602
Ni	-0.555015	0.432690	-2.337552	Pt	-2.881197	-2.543070	-3.374973
Pt	-3.281925	2.673695	1.256279	Pt	-1.771602	-1.568220	0.962437
Pt	-3.666156	-2.429149	0.435547	Pt	2.967285	0.806138	-3.173807
Pt	-0.681090	2.937607	-3.232914	Pt	-2.978443	-0.798863	3.165184
Pt	0.582520	-0.443525	2.441792	Pt	-2.941036	3.306029	-0.001343
Pt	-0.819359	-3.330953	-2.866153	Pt	2.095703	0.043689	3.896398
Pt	-3.747896	-1.614857	2.936205	Pt	3.143317	-2.049270	2.429446
Pt	-1.352087	-1.288547	3.998792	Pt	2.822938	2.515303	3.329843
Pt	2.956502	-1.442653	2.946175	Pt	2.926775	-3.318067	-0.014563
Pt	3.748723	1.603768	-2.938700	Pt	1.766312	1.571669	-0.966526
Pt	0.836560	3.287089	2.822507	Pt	-2.284404	1.519735	4.217916
Pt	4.240374	-0.154426	-1.035323	Pt	0.892173	-4.937350	-0.458465
Pt	2.337209	1.149743	3.566887	Pt	4.868468	-1.498189	0.434833
Pt	-1.633206	-4.089995	-0.342807	Pt	-3.942836	-0.518941	-1.929613
Pt	1.008025	-4.185286	-0.988344	Pt	0.275787	2.056004	3.854858
Pt	0.177538	-4.816992	1.436921	Pt	3.640657	-1.541892	-1.972767
Pt	-2.860407	0.850503	3.254632	Pt	-3.610427	1.527022	1.931919
Pt	-4.561331	1.903503	-0.920177	Pt	-1.443730	-1.273402	-1.682430
Pt	4.052053	0.599095	1.539301	Pt	3.537753	3.141413	-1.940926
Pt	1.816671	-3.330842	-3.422076	Pt	-1.181533	-2.895535	3.195159
Pt	-0.897929	1.663867	1.707427	Pt	-3.548039	-3.134708	1.932975
Pt	1.329998	1.269585	-3.955600	Pt	1.091011	-3.820188	1.934118
Pt	-1.809137	3.332983	3.422443	Pt	-4.279952	-0.816218	0.754627
Pt	1.660447	4.076957	0.358442	Pt	-1.235859	2.443501	-4.224229
Pt	-3.409145	-3.142423	-2.147881	Pt	1.007994	3.842079	1.948324
Pt	2.416395	-3.429413	1.194852	Pt	-1.639325	3.324046	2.413546
Pt	-2.911662	1.425519	-2.928518	Pt	-0.554068	-0.470393	4.358367
Pt	3.279229	-2.678226	-1.256648	Pt	-0.280190	-2.072627	-3.897125
Pt	1.858276	3.307516	-2.260364	Pt	-3.303639	-2.923417	-0.741232
Pt	2.856992	-0.851930	-3.258407	Pt	-4.790425	1.485303	-0.433437
Pt	3.636807	2.395164	-0.429325	Pt	1.244368	-2.487044	4.289731
Pt	4.560406	-1.907009	0.909375	Pt	-2.099942	-0.019590	-3.894789
Pt	-0.167467	4.892931	-1.457146	Pt	1.354835	4.193929	-0.764984

Pt	-1.823045	-3.283092	2.232467	Pt	-3.074923	2.004680	-2.376583
Pt	-2.451032	3.464732	-1.211154	Pt	1.617787	-3.290508	-2.391331
Pt	3.378082	3.082708	2.099953	Pt	-1.331289	-4.148243	0.744551
Pt	-0.084893	2.443243	-0.722321	Pt	2.431463	-0.745643	0.219230
Pt	-1.014763	4.231866	1.012166	Pt	0.621376	-1.244640	2.140285
Pt	0.680274	-2.950717	3.221125	Pt	-0.999079	-3.847891	-1.941434
Pt	1.171382	-0.898004	4.890148	Pt	4.322077	0.848073	-0.767857
Pt	-0.326334	1.254199	4.275910	Pt	2.269379	-1.509939	-4.229529
Pt	0.900544	-1.665059	-1.709065	Pt	3.258306	2.891934	0.744825
Pt	-4.239734	0.151868	1.032853	Pt	3.929204	0.547284	1.945967
Pt	-4.088378	-0.602905	-1.566153	Pt	-1.096635	3.804397	-1.965354
Pt	-2.317451	-1.130429	-3.586711	Pt	-0.908119	5.013495	0.446240
Pt	0.324112	-1.227158	-4.230672	Pt	0.532098	0.479878	-4.311134
Pt	-1.695781	-1.572427	-1.076904	Pt	-0.448956	2.507329	0.219587
Pt	-1.141670	0.888988	-4.817257	Pt	1.150416	2.856503	-3.173421

Atom	Coordinates for Pt ₄₉ Ni ₆			Atom	Coordinates for Pt ₅₀ Ni ₅		
	X	Y	Z		X	Y	Z
Ni	1.454485	1.203753	1.572493	Ni	-0.006193	-0.005109	-0.001772
Ni	-0.760817	1.246852	-1.975053	Ni	-1.639864	-1.660061	0.781069
Ni	0.005146	-0.000009	-0.003937	Ni	2.353694	-0.733627	-0.098914
Ni	0.480615	-2.384381	-0.343588	Ni	-1.521540	-0.947854	-1.685679
Ni	-0.976948	0.635590	2.158057	Ni	-0.401550	2.343996	0.657504
Ni	0.980930	-0.631461	-2.151894	Pt	3.492970	-1.167205	-2.467680
Pt	-0.492061	2.488387	0.344705	Pt	1.582471	0.983015	1.764557
Pt	4.243923	0.990448	-1.024847	Pt	1.229934	-4.141773	1.194273
Pt	-0.486226	-1.942005	-3.952431	Pt	-0.212834	-1.246195	4.295121
Pt	-4.240102	-0.987053	1.029487	Pt	1.172421	3.480022	2.481109
Pt	-1.169741	-4.215258	0.676762	Pt	-4.215066	-0.997850	0.937341
Pt	-1.314323	3.843695	-1.747760	Pt	-3.361539	-3.403844	1.604788
Pt	-1.545632	3.191243	2.648058	Pt	-3.323672	2.414599	-1.793384
Pt	-2.728539	-0.996387	3.336178	Pt	2.761956	1.375978	-3.243557
Pt	3.004162	-3.236605	-0.335653	Pt	-3.529664	1.174724	2.500961
Pt	4.928868	-1.382258	0.049332	Pt	2.428521	-0.630994	3.707628
Pt	-2.012039	1.303447	4.432178	Pt	3.289883	-2.389600	1.766104
Pt	1.202901	4.254779	-0.699062	Pt	0.940696	3.410336	-2.743552
Pt	0.805066	-1.305756	2.049361	Pt	4.221575	0.969608	-0.937657
Pt	1.050429	3.797663	2.022655	Pt	3.408767	3.455453	-1.642730
Pt	2.729668	0.998104	-3.335223	Pt	-1.198088	-3.467584	-2.486271
Pt	0.497740	1.925841	3.907704	Pt	-3.118638	-1.941801	-3.459038
Pt	-3.031406	-2.508421	-3.276430	Pt	4.816535	-1.500750	-0.202264
Pt	-2.464743	0.695779	-0.029319	Pt	0.782807	-1.599861	1.849008
Pt	2.362104	-0.039030	3.746427	Pt	-0.992634	0.383316	2.336433
Pt	3.358584	-2.050666	2.133888	Pt	4.096084	0.214274	1.678453
Pt	-3.305613	2.032250	-2.130160	Pt	1.706611	1.730223	-0.823410
Pt	0.234496	0.645150	-4.325047	Pt	1.964399	-0.776922	-4.669915
Pt	1.534957	-3.158742	-2.616009	Pt	0.413640	-2.438883	-0.684321
Pt	-0.986761	4.973992	0.696011	Pt	-1.577714	3.179637	-3.697473
Pt	0.985465	-4.894295	-0.702033	Pt	1.435923	-2.901895	-3.100070
Pt	-0.880175	-3.043676	3.163775	Pt	-2.410297	0.600074	-3.667640
Pt	-2.351938	0.061622	-3.752872	Pt	0.199407	1.235118	-4.298964
Pt	2.988401	2.470203	3.224092	Pt	-1.978885	0.764976	4.665770
Pt	1.318713	-3.858028	1.712521	Pt	3.376331	2.785212	0.966114
Pt	-4.927621	1.389802	-0.055833	Pt	0.607259	1.403365	4.207633
Pt	-1.519952	-1.254915	-1.636549	Pt	-2.899465	3.251480	0.799694
Pt	-0.233893	-0.645643	4.371917	Pt	-2.739487	-1.381342	3.195046
Pt	-3.039274	3.271769	0.326333	Pt	-0.821181	4.796609	1.345502
Pt	-4.092695	-0.577342	-1.710534	Pt	-3.305339	-2.726650	-0.945796

Pt	-1.563321	2.560997	-4.051597	Pt	-0.791744	1.592489	-1.851566
Pt	3.540259	-1.372900	-2.269962	Pt	0.983697	-0.390688	-2.338991
Pt	-3.320552	-3.310938	2.056146	Pt	-2.449601	0.759373	0.101746
Pt	-1.660261	-1.657362	1.027915	Pt	1.563232	-3.191587	3.693326
Pt	1.604982	-2.606948	4.102022	Pt	3.160994	1.964092	3.522622
Pt	2.020432	-1.298523	-4.427596	Pt	-1.219941	4.097141	-1.173809
Pt	-3.538660	1.373250	2.271533	Pt	1.297912	4.235355	-0.135001
Pt	3.326998	3.303263	-2.055809	Pt	2.912607	-3.240637	-0.795938
Pt	3.234091	2.950945	0.631746	Pt	-0.954196	-3.375522	2.704917
Pt	-1.028851	-3.808455	-2.014096	Pt	-4.088912	-0.238517	-1.692633
Pt	1.665396	1.652846	-1.025468	Pt	-0.625007	-1.394105	-4.157769
Pt	4.043689	0.582847	1.695699	Pt	-1.324241	-4.226917	0.143702
Pt	0.871689	3.000954	-3.138106	Pt	-4.891897	1.512447	0.202022
Pt	2.466057	-0.689113	0.026743	Pt	-1.423030	2.874749	3.059976
Pt	-3.268105	-2.989301	-0.626872	Pt	0.821891	-4.869886	-1.366626

Atom	Coordinates for Pt ₅₁ Ni ₄			Atom	Coordinates for Pt ₅₂ Ni ₃		
	X	Y	Z		X	Y	Z
Ni	0.796832	-1.219652	1.996363	Ni	1.546765	1.722151	0.878318
Ni	-0.662262	2.357019	0.337378	Ni	0.006478	-0.002020	0.005946
Ni	-1.329671	-1.298171	-1.629319	Ni	0.325525	-2.305977	0.840377
Ni	-0.004205	-0.000566	0.002478	Pt	-0.272667	1.493806	4.224970
Pt	-0.917283	-4.347810	0.632155	Pt	-1.445129	-3.348875	2.541031
Pt	3.280471	-3.047469	-0.248081	Pt	2.431946	-0.741388	0.432660
Pt	-1.579273	-1.787864	0.964981	Pt	0.290505	-1.502026	-4.219427
Pt	-3.756572	1.109816	2.179237	Pt	-3.224955	1.005621	-2.960394
Pt	2.283403	-1.134996	-4.455269	Pt	-0.657373	4.793269	-1.730617
Pt	1.537734	-3.767546	1.764655	Pt	2.360857	1.581674	3.410609
Pt	-1.354196	4.819233	0.689881	Pt	1.067328	-2.684895	3.370422
Pt	1.377708	1.351416	1.701863	Pt	1.000265	-1.711059	-1.656028
Pt	-2.793077	-1.251995	3.274725	Pt	1.987440	-3.403092	-3.298097
Pt	-0.747787	-3.094491	3.089334	Pt	-3.501414	2.503265	1.271929
Pt	-2.248919	-0.097128	-3.821776	Pt	-0.716546	0.240547	-2.474324
Pt	-2.290625	1.129638	4.450060	Pt	3.226027	-1.005953	2.961376
Pt	5.023530	-1.033818	0.216642	Pt	1.347174	-4.164181	-0.777766
Pt	2.521381	-0.519671	0.110189	Pt	-2.828260	3.220655	-1.327588
Pt	1.875813	-3.099335	-2.643020	Pt	3.559743	1.782974	-3.249249
Pt	-1.149447	0.566172	2.231585	Pt	-0.624253	-3.587569	-2.629173
Pt	2.792557	1.250941	-3.272592	Pt	-0.329223	2.409503	-0.868921
Pt	-2.718807	-2.654304	-3.331299	Pt	-4.308604	-0.159163	1.246851
Pt	-0.255398	-1.951310	-3.982288	Pt	-4.133522	-1.084602	-1.368141
Pt	-1.861466	3.068914	2.606865	Pt	0.644386	3.543163	2.605948
Pt	3.754971	-1.108217	-2.178331	Pt	3.509854	-2.503241	-1.253348
Pt	-0.837675	1.269614	-2.075361	Pt	4.086020	1.077956	1.360164
Pt	3.993243	0.856184	1.852311	Pt	1.486654	3.375018	-2.563592
Pt	0.235304	1.964591	4.028585	Pt	-1.776569	-0.900270	1.644383
Pt	-0.717602	-3.850823	-2.080685	Pt	2.842096	-0.829936	-3.368327
Pt	-5.022410	1.028768	-0.207627	Pt	-1.425785	0.478579	-4.916744
Pt	-0.314711	-0.722645	4.365522	Pt	-2.379470	-1.596756	-3.452921
Pt	-3.002051	-3.177728	-0.754177	Pt	-1.074208	2.708502	-3.412369
Pt	1.576857	1.795635	-0.963731	Pt	-3.199210	-3.590691	-1.809587
Pt	-3.241348	3.017963	0.254168	Pt	-0.986201	1.706673	1.668939
Pt	-3.437098	1.828988	-2.232854	Pt	1.790634	0.895883	-1.631473
Pt	-1.668221	2.531499	-4.138778	Pt	3.160295	3.517657	1.794789
Pt	4.195192	1.302734	-0.881100	Pt	1.438634	-0.482379	4.906813
Pt	-3.948857	-0.856834	-1.830685	Pt	0.665644	-4.710678	1.717286
Pt	3.386644	-1.816830	2.227383	Pt	-2.441252	0.744132	-0.424422
Pt	0.317532	0.720460	-4.414772	Pt	-3.465161	-2.758071	0.747394

Pt	0.758390	3.134887	-3.115674	Pt	1.306471	4.247562	0.055744
Pt	-3.147998	-3.565962	1.923564	Pt	-1.078324	-1.163570	4.199939
Pt	3.029443	3.218746	0.756470	Pt	-2.832934	0.827077	3.376738
Pt	0.887669	4.308896	-0.613945	Pt	-1.272297	-4.258217	-0.024372
Pt	2.238169	0.068556	3.828699	Pt	-1.607178	-1.805686	-0.908625
Pt	-1.541071	3.779509	-1.735931	Pt	-1.354256	4.204516	0.812975
Pt	-2.518968	0.515603	-0.103446	Pt	-4.851276	1.478764	-0.845373
Pt	1.362391	-4.897405	-0.692998	Pt	4.843498	-1.476542	0.859956
Pt	-4.197285	-1.303845	0.880554	Pt	4.315513	0.154135	-1.228318
Pt	3.143401	3.574930	-1.921059	Pt	-3.538016	-1.789751	3.269194
Pt	0.690681	3.861916	2.069204	Pt	-1.965715	3.396315	3.318042
Pt	0.682407	-2.456548	-0.347039	Pt	1.097697	1.160402	-4.194350
Pt	2.748621	2.694590	3.391932	Pt	3.436690	2.727858	-0.712850
Pt	1.629119	-2.493759	4.081902	Pt	0.723173	-0.242455	2.463625
Pt	1.144819	-0.570499	-2.236847	Pt	2.792489	-3.188613	1.319977

Atom	Coordinates for Pt ₅₃ Ni ₂			Atom	Coordinates for Pt ₅₄ Ni ₁		
	X	Y	Z		X	Y	Z
Ni	0.001738	-0.008154	-0.001435	Ni	0.000000	0.000000	0.000000
Ni	0.509631	-2.390213	-0.420695	Pt	-3.100637	-3.629674	-1.938637
Pt	-3.086256	3.252935	0.306965	Pt	0.608399	-0.214552	2.517245
Pt	1.226556	4.302388	-0.431063	Pt	2.800174	-3.189608	1.493272
Pt	1.238497	-3.956694	1.611087	Pt	4.827104	-1.434720	1.089712
Pt	3.446346	3.418049	-1.712588	Pt	-3.487284	-2.777751	0.606097
Pt	2.175057	-0.236663	3.923356	Pt	3.100638	3.629674	1.938637
Pt	1.736935	1.721076	-0.863224	Pt	4.373467	0.178234	-1.041844
Pt	-3.429888	-3.434986	1.702481	Pt	-4.069251	-1.126654	-1.554430
Pt	-1.193617	-4.264735	0.414983	Pt	1.563808	1.830628	0.977752
Pt	1.441634	1.189848	1.797263	Pt	-1.269078	-4.316261	-0.061158
Pt	3.236731	2.971252	0.952540	Pt	1.092055	-1.722392	-1.610430
Pt	-3.252651	2.149339	-2.238910	Pt	-1.433874	4.206106	0.705053
Pt	-2.330545	1.100723	4.455366	Pt	-3.007167	0.838264	3.240169
Pt	-2.845674	-2.384024	-3.560937	Pt	1.433874	-4.206106	-0.705053
Pt	4.308075	1.038261	-0.736284	Pt	-2.800175	3.189608	-1.493272
Pt	4.008111	0.498644	1.966218	Pt	1.862724	0.898732	-1.573291
Pt	-4.952661	1.374286	-0.275313	Pt	3.007167	-0.838264	-3.240169
Pt	3.735919	-1.287633	-2.145203	Pt	3.589135	-2.489362	-1.079642
Pt	2.487017	-0.704324	0.135412	Pt	-1.276564	-1.133022	4.163061
Pt	1.383946	-2.825289	4.069907	Pt	-0.316840	2.410439	-0.917660
Pt	2.961839	1.178708	-3.165085	Pt	-1.563808	-1.830628	-0.977753
Pt	-1.382349	2.806467	-4.087318	Pt	-1.573293	-3.367842	2.535115
Pt	-4.303292	-1.057180	0.737327	Pt	0.628212	-4.779293	1.819488
Pt	-1.739823	3.112463	2.736125	Pt	-1.092055	1.722392	1.610430
Pt	2.860328	2.363840	3.567085	Pt	-4.827104	1.434720	-1.089712
Pt	0.271268	1.781693	4.118749	Pt	-0.628212	4.779293	-1.819488
Pt	2.329224	-1.124793	-4.446488	Pt	-3.096903	0.954788	-3.121217
Pt	-1.431252	-1.200596	-1.791576	Pt	0.316840	-2.410439	0.917660
Pt	-3.227253	-2.982014	-0.953637	Pt	-4.373467	-0.178234	1.041844
Pt	-2.174891	0.217155	-3.924577	Pt	3.487284	2.777751	-0.606097
Pt	1.058829	3.198466	-2.976711	Pt	0.492232	-1.534574	-4.200858
Pt	3.250083	-2.161621	2.231891	Pt	4.069251	1.126654	1.554430
Pt	-0.267296	-1.794667	-4.113966	Pt	3.096903	-0.954788	3.121217
Pt	-1.725144	-1.729288	0.856212	Pt	-3.693312	-1.781959	3.119439
Pt	-1.053394	-3.208808	2.968316	Pt	2.210720	1.644730	3.556963
Pt	0.696479	-1.422577	2.047157	Pt	1.276564	1.133022	-4.163061
Pt	-2.961113	-1.197207	3.158815	Pt	2.434553	-0.723602	0.549597
Pt	-1.174107	0.553349	2.244878	Pt	3.693312	1.781959	-3.119439
Pt	-0.696300	1.412893	-2.059878	Pt	0.941643	-2.671532	3.495806

Pt	-3.739390	1.273726	2.146322	Pt	-0.492232	1.534574	4.200858
Pt	-2.495422	0.691200	-0.138966	Pt	-2.165269	3.415069	3.193077
Pt	1.040348	-4.879318	-0.858795	Pt	2.165269	-3.415069	-3.193077
Pt	-0.898452	-3.733753	-2.244275	Pt	-1.862724	-0.898732	1.573291
Pt	-0.532809	2.498933	0.439831	Pt	1.206302	-0.425402	4.991062
Pt	-4.002422	-0.515934	-1.973330	Pt	1.269078	4.316261	0.061158
Pt	-0.481991	-0.883216	4.378039	Pt	-2.434553	0.723602	-0.549597
Pt	1.716083	-3.097547	-2.691685	Pt	0.480118	3.616015	2.634071
Pt	3.036790	-3.235330	-0.308940	Pt	-2.210720	-1.644730	-3.556963
Pt	-1.057638	4.960445	0.873075	Pt	-0.608399	0.214552	-2.517245
Pt	1.172005	-0.567134	-2.237057	Pt	-0.941643	2.671532	-3.495806
Pt	-1.252933	3.988347	-1.650465	Pt	-1.206302	0.425402	-4.991062
Pt	0.925642	3.761061	2.280000	Pt	1.573293	3.367842	-2.535115
Pt	4.943276	-1.397506	0.269635	Pt	-0.480118	-3.616015	-2.634071
Pt	0.490178	0.865656	-4.380636	Pt	-3.589135	2.489361	1.079642

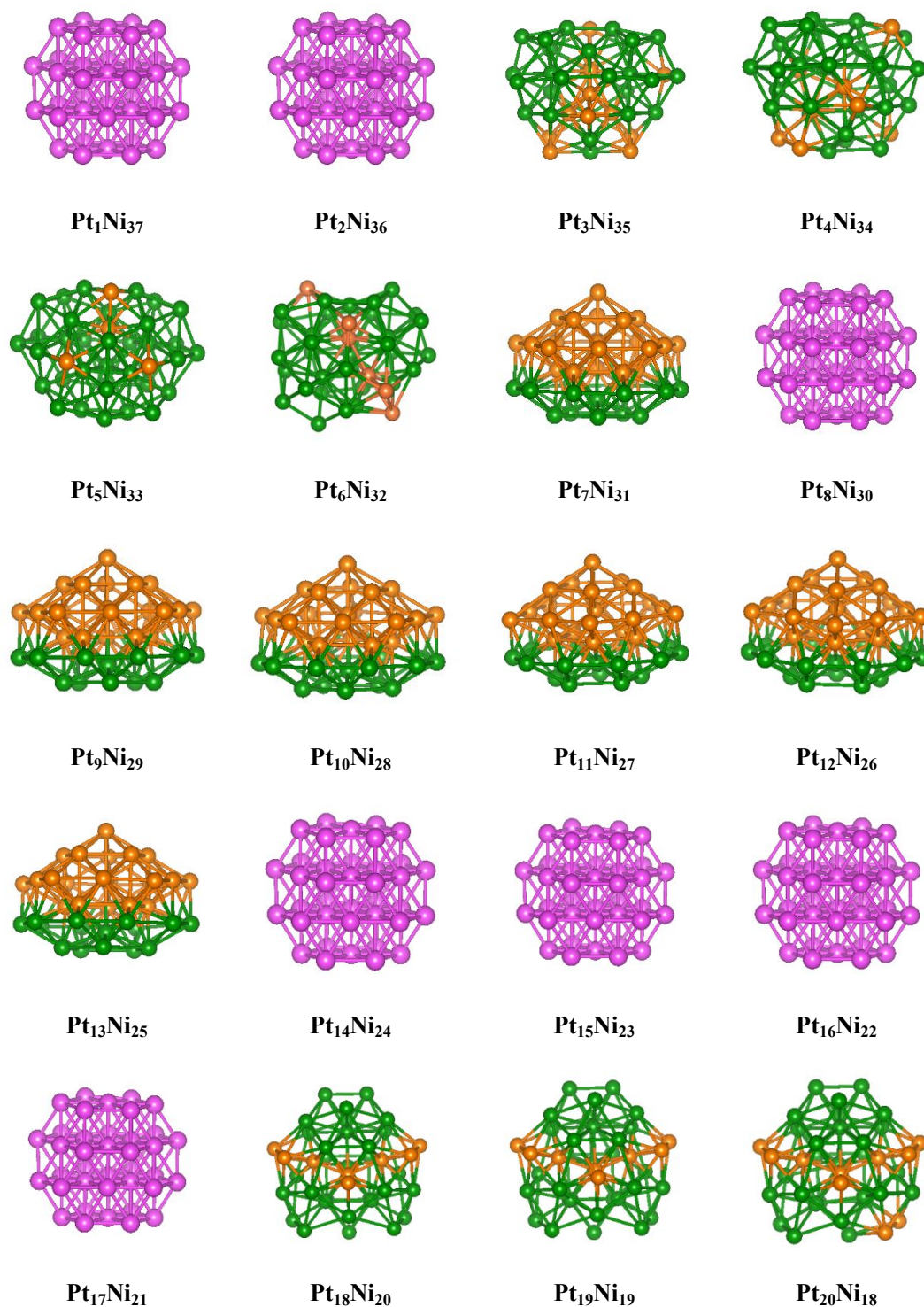
Atom	Coordinates for Pt ₅₅			Atom	Coordinates for Ni ₅₅		
	X	Y	Z		X	Y	Z
Pt	3.769929	-1.183373	-2.188484	Ni	-0.287349	2.186085	-0.832248
Pt	-2.842110	-2.434911	-3.579251	Ni	2.207955	-0.656251	0.498443
Pt	-1.717494	-1.801908	0.881006	Ni	-3.730386	-1.032832	-1.424986
Pt	2.338746	-1.036737	-4.502539	Ni	-2.839008	0.875276	-2.861298
Pt	-2.338746	1.036734	4.502539	Ni	-0.863227	2.449059	-3.204693
Pt	3.183923	3.060034	0.949228	Ni	1.124116	-0.396418	4.651005
Pt	-3.174013	3.194918	0.346876	Ni	-4.498219	1.336967	-1.015467
Pt	1.123703	4.354758	-0.419027	Ni	-1.124111	0.396416	-4.651006
Pt	-1.123703	-4.354758	0.419026	Ni	-3.441675	-1.660548	2.906902
Pt	1.717494	1.801908	-0.881007	Ni	-1.170256	-1.038670	3.816382
Pt	-1.802155	3.074577	2.775139	Ni	0.000000	0.000000	0.000000
Pt	-4.297717	-1.159839	0.765902	Ni	-1.314469	3.855842	0.646340
Pt	0.599862	-2.529322	-0.464243	Ni	-1.689349	-0.815082	1.426855
Pt	-3.183924	-3.060033	-0.949228	Ni	0.585408	-4.453666	1.695519
Pt	-3.333507	2.094909	-2.213882	Ni	0.990410	-1.562079	-1.460538
Pt	-0.258066	-1.779854	-4.143393	Ni	3.441676	1.660550	-2.906900
Pt	-1.487496	2.814706	-4.084385	Ni	-2.756744	0.768457	2.970345
Pt	1.449228	1.241593	1.825106	Ni	3.730385	1.032834	1.424985
Pt	-5.014590	1.271464	-0.233848	Ni	2.026625	1.507766	3.260757
Pt	-0.758493	1.435255	-2.082680	Ni	1.418255	1.660242	0.886748
Pt	5.014590	-1.271461	0.233848	Ni	-3.290249	2.282059	0.989735
Pt	1.176402	-4.960302	-0.910437	Ni	3.290249	-2.282060	-0.989734
Pt	-4.027994	-0.596479	-1.954910	Ni	2.839010	-0.875276	2.861297
Pt	1.192557	-0.528645	-2.295902	Ni	-2.207955	0.656251	-0.498443
Pt	-1.365733	3.986113	-1.627228	Ni	-0.440138	-3.314893	-2.414720
Pt	4.297717	1.159840	-0.765903	Ni	-1.442279	-3.087386	2.324003
Pt	2.219713	-0.194715	3.929013	Ni	-0.990410	1.562079	1.460538
Pt	2.925858	1.280179	-3.194167	Ni	-2.889384	-3.382374	-1.806553
Pt	-2.557003	0.648335	-0.119242	Ni	1.314465	-3.855844	-0.646340
Pt	-1.176401	4.960302	0.910437	Ni	-2.017742	3.182390	2.975524
Pt	-0.964209	-3.254749	2.979785	Ni	-4.009267	-0.163393	0.955084
Pt	0.436421	0.911534	-4.402368	Ni	-0.585411	4.453665	-1.695521
Pt	2.557004	-0.648334	0.119242	Ni	-0.551771	0.194581	-2.282950
Pt	0.964210	3.254747	-2.979787	Ni	2.566989	-2.923993	1.368918
Pt	-0.436422	-0.911537	4.402367	Ni	0.287348	-2.186086	0.832247
Pt	3.333507	-2.094907	2.213883	Ni	0.863228	-2.449061	3.204691
Pt	0.258065	1.779852	4.143394	Ni	4.009268	0.163394	-0.955083
Pt	-1.449228	-1.241592	-1.825105	Ni	0.551773	-0.194582	2.282950
Pt	3.174014	-3.194917	-0.346875	Ni	-2.026623	-1.507766	-3.260759
Pt	3.368210	3.533757	-1.727760	Ni	-2.566990	2.923992	-1.368920

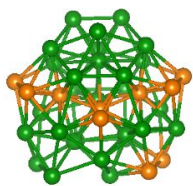
Pt	-2.219714	0.194715	-3.929013	Ni	2.756746	-0.768458	-2.970341
Pt	4.027994	0.596481	1.954910	Ni	1.442277	3.087386	-2.324003
Pt	1.487497	-2.814707	4.084384	Ni	0.451241	-1.406784	-3.851032
Pt	1.802155	-3.074578	-2.775139	Ni	-1.163399	-3.956825	-0.056066
Pt	-0.599862	2.529322	0.464243	Ni	-0.451238	1.406783	3.851032
Pt	1.365735	-3.986113	1.627228	Ni	1.689350	0.815082	-1.426854
Pt	0.000000	0.000000	0.000000	Ni	2.889381	3.382377	1.806552
Pt	-3.769929	1.183373	2.188485	Ni	2.017742	-3.182391	-2.975522
Pt	-0.853980	-3.791398	-2.301785	Ni	0.440136	3.314893	2.414720
Pt	0.758493	-1.435255	2.082680	Ni	-1.418257	-1.660241	-0.886748
Pt	0.853980	3.791398	2.301786	Ni	-3.196883	-2.546434	0.555623
Pt	-1.192557	0.528644	2.295903	Ni	1.163394	3.956827	0.056066
Pt	-2.925858	-1.280181	3.194166	Ni	4.498219	-1.336967	1.015467
Pt	2.842109	2.434911	3.579252	Ni	1.170260	1.038669	-3.816381
Pt	-3.368211	-3.533757	1.727759	Ni	3.196881	2.546437	-0.555623

Table S3 The parameter settings of the comparison algorithms

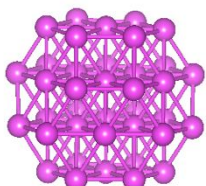
Parameters Settings	Improved SANSDE	Original SANSDE
Program running time to stop iteration for 38-atom clusters (s)	10000	10000
Program running time to stop iteration for 55-atom clusters (s)	20000	20000
Number of clusters in one iteration	12	12
The ratio of the number of individuals generated by the two initialization methods	1:5	1:5
Number of times the algorithm had been run for 38-atom clusters to test running time	40	40
Number of times the algorithm had been run for 55-atom clusters to test running time	20	20
The initial value of selection probability p	0.5	0.5
Calculation cycle of p	100 generations	100 generations
Number of strategic decisions to calculate p	1200	1200
Side length of disturbance range cube	1 Å	None

Figure S1 The optimized structures of $(\text{PtNi})_{38}$ clusters colored according to the atomic types: purple, *fcc*; orange, icosahedral; and green, others.

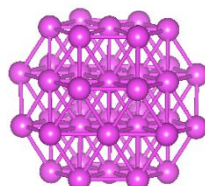




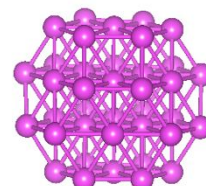
Pt₂₁Ni₁₇



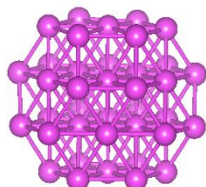
Pt₂₂Ni₁₆



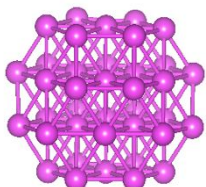
Pt₂₃Ni₁₅



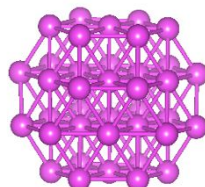
Pt₂₄Ni₁₄



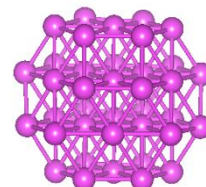
Pt₂₅Ni₁₃



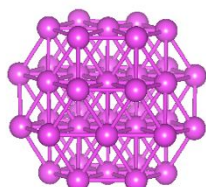
Pt₂₆Ni₁₂



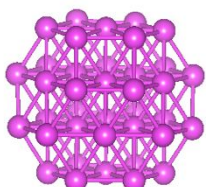
Pt₂₇Ni₁₁



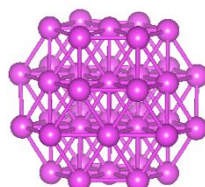
Pt₂₈Ni₁₀



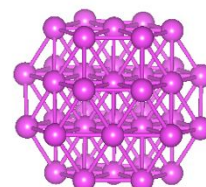
Pt₂₉Ni₉



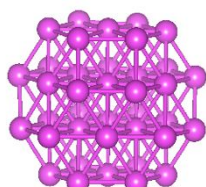
Pt₃₀Ni₈



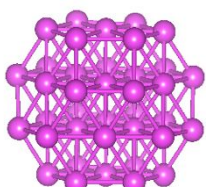
Pt₃₁Ni₇



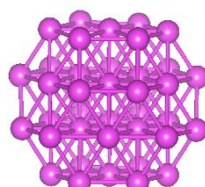
Pt₃₂Ni₆



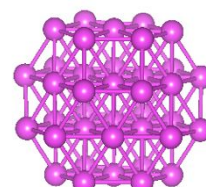
Pt₃₃Ni₅



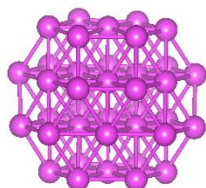
Pt₃₄Ni₄



Pt₃₅Ni₃

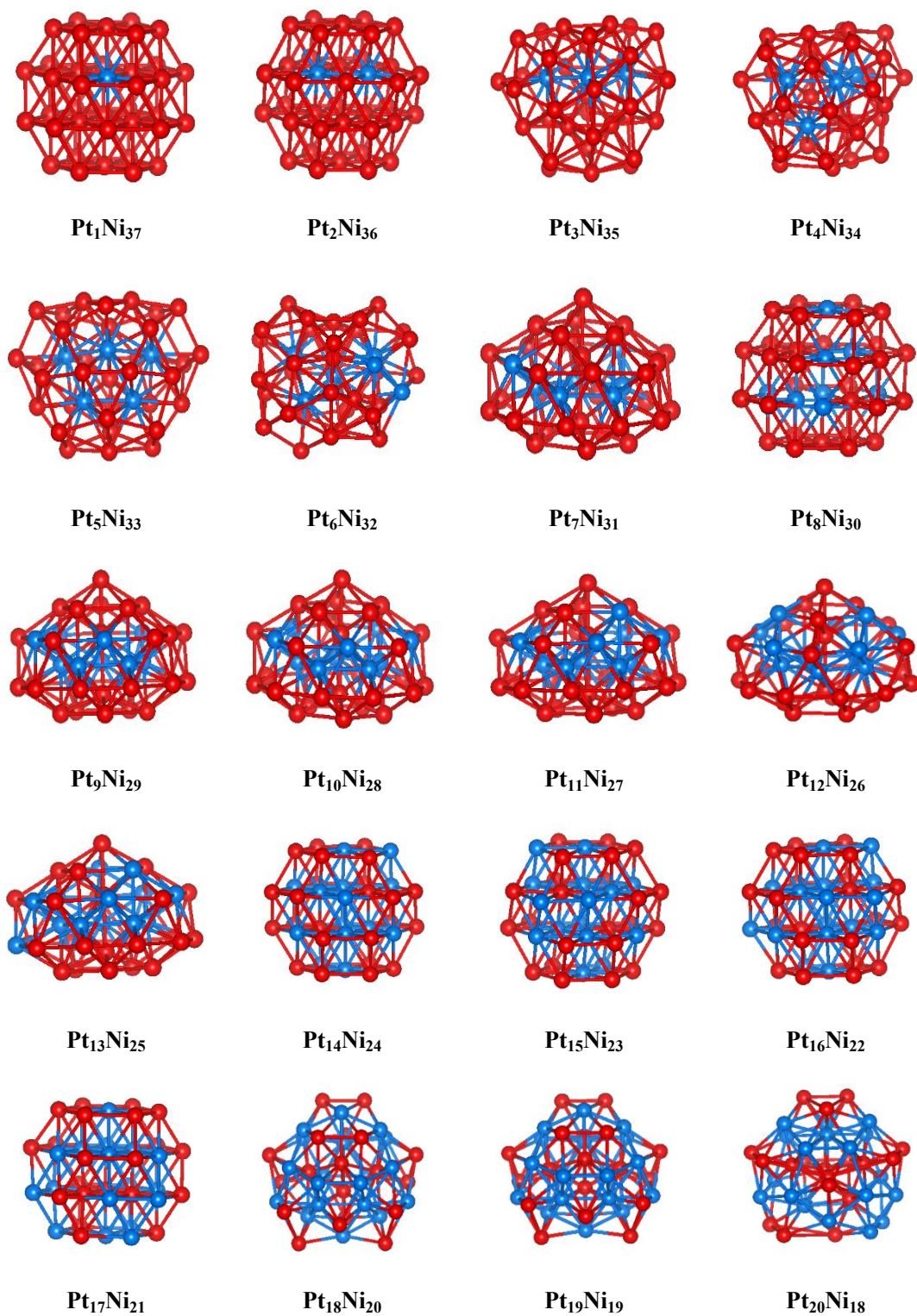


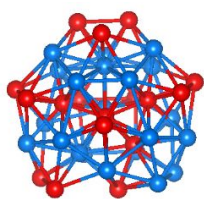
Pt₃₆Ni₂



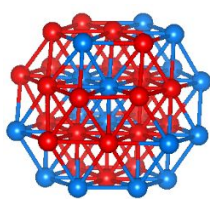
Pt₃₇Ni₁

Figure S2 The optimized structures of (PtNi)₃₈ clusters colored according to the atomic species: red, Ni atoms; blue, Pt atoms.

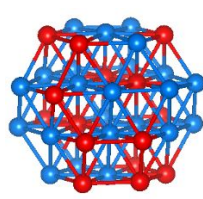




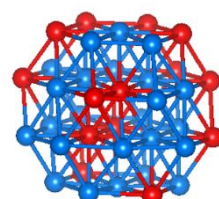
Pt₂₁Ni₁₇



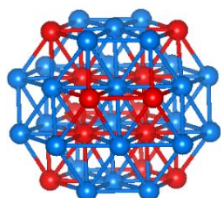
Pt₂₂Ni₁₆



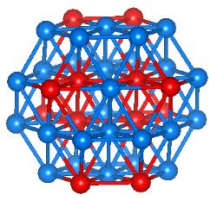
Pt₂₃Ni₁₅



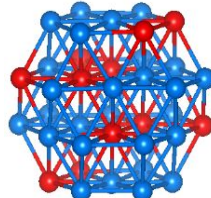
Pt₂₄Ni₁₄



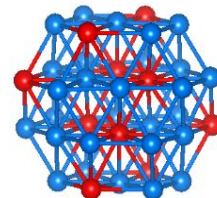
Pt₂₅Ni₁₃



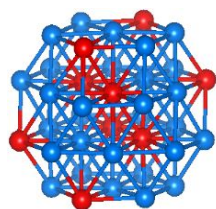
Pt₂₆Ni₁₂



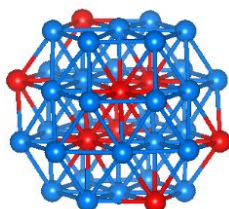
Pt₂₇Ni₁₁



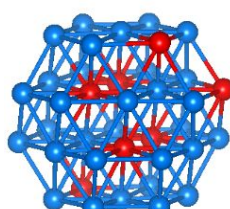
Pt₂₈Ni₁₀



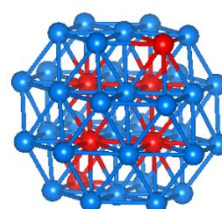
Pt₂₉Ni₉



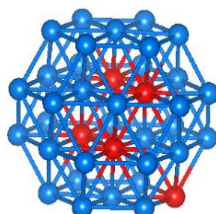
Pt₃₀Ni₈



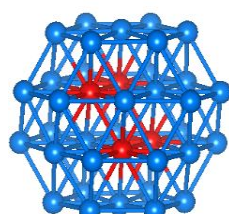
Pt₃₁Ni₇



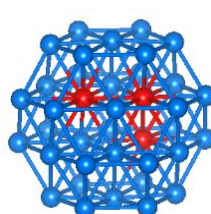
Pt₃₂Ni₆



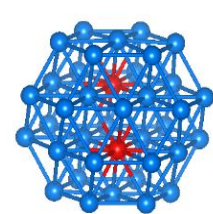
Pt₃₃Ni₅



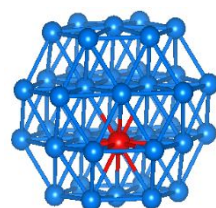
Pt₃₄Ni₄



Pt₃₅Ni₃



Pt₃₆Ni₂



Pt₃₇Ni₁

Figure S3 The energy evolutions of $\text{Pt}_{73}\text{Ni}_{74}$ clusters with the running time by using the original SaNSDE and improved SaNSDE algorithms.

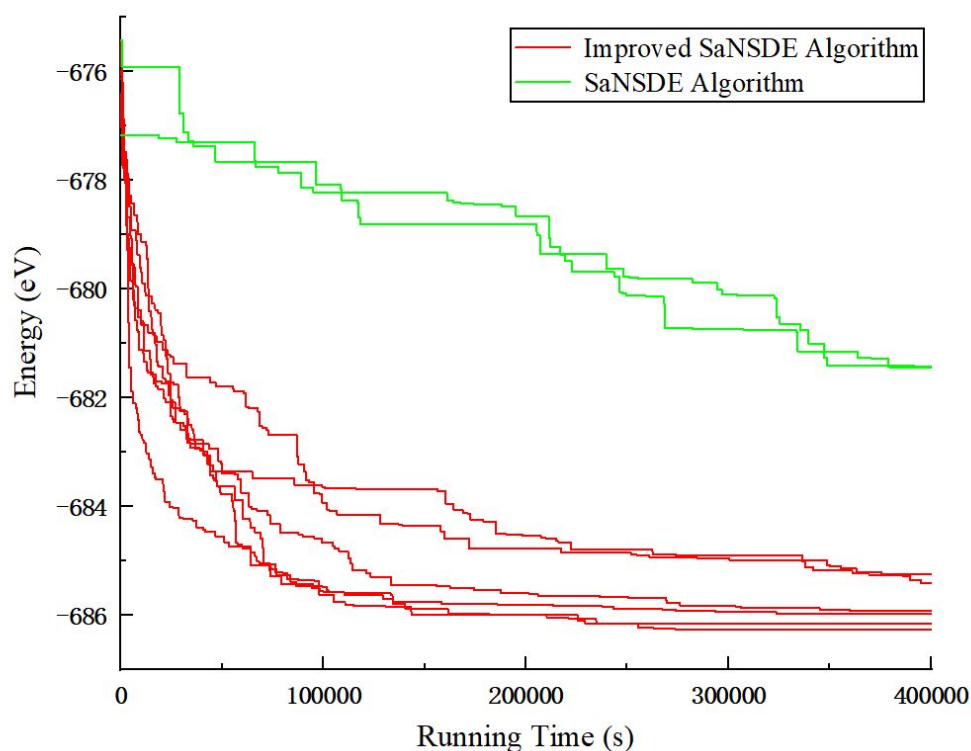


Figure S4 The energy evolutions of (a) $\text{Pt}_{19}\text{Ni}_{19}$ and (c) $\text{Pt}_{27}\text{Ni}_{28}$ clusters with the running time by using different types of permutations. (b) and (d) are respectively the enlarged versions of the circle region in (a) and (c).

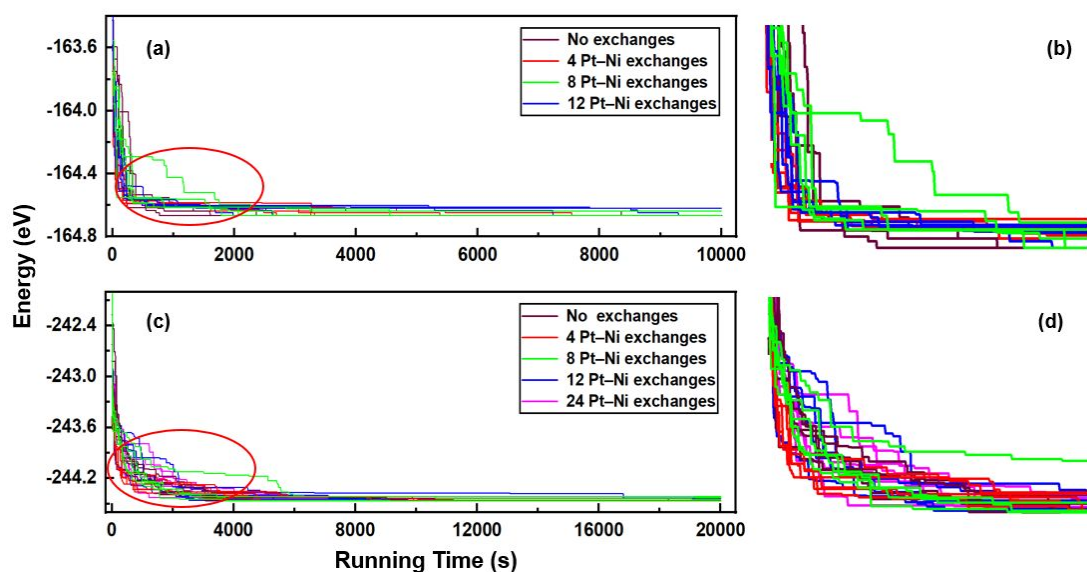


Figure S5 The energy evolutions of (a) $\text{Pt}_{19}\text{Ni}_{19}$ and (c) $\text{Pt}_{27}\text{Ni}_{28}$ clusters with the iterations by using different types of permutations. (b) and (d) are respectively the enlarged versions of the circle region in (a) and (c).

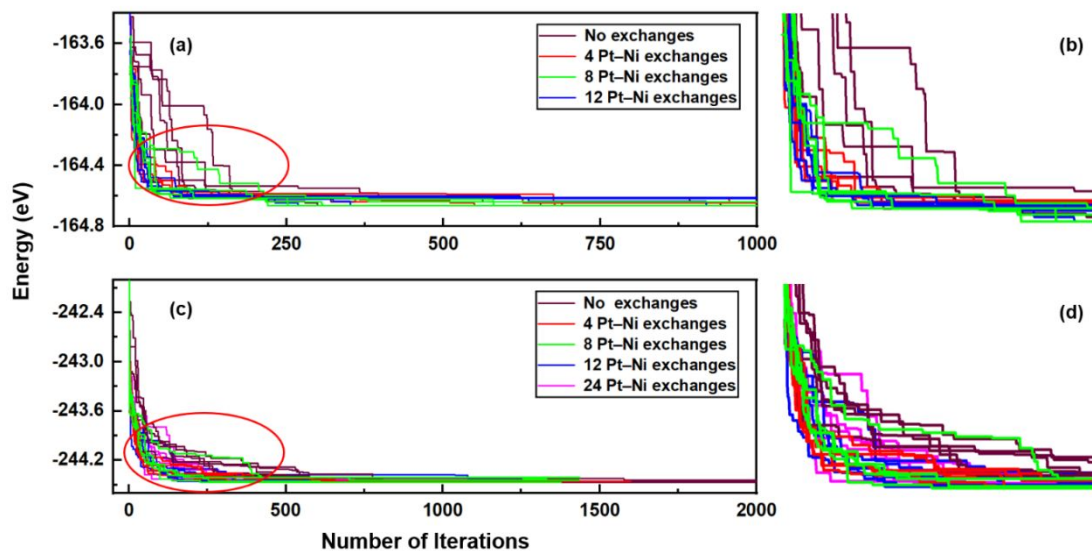


Figure S6 The energy evolutions of (a) $\text{Pt}_{19}\text{Ni}_{19}$ and (c) $\text{Pt}_{27}\text{Ni}_{28}$ clusters with the running time by varying the number of permutations. (b) and (d) are respectively the enlarged versions of the circle region in (a) and (c).

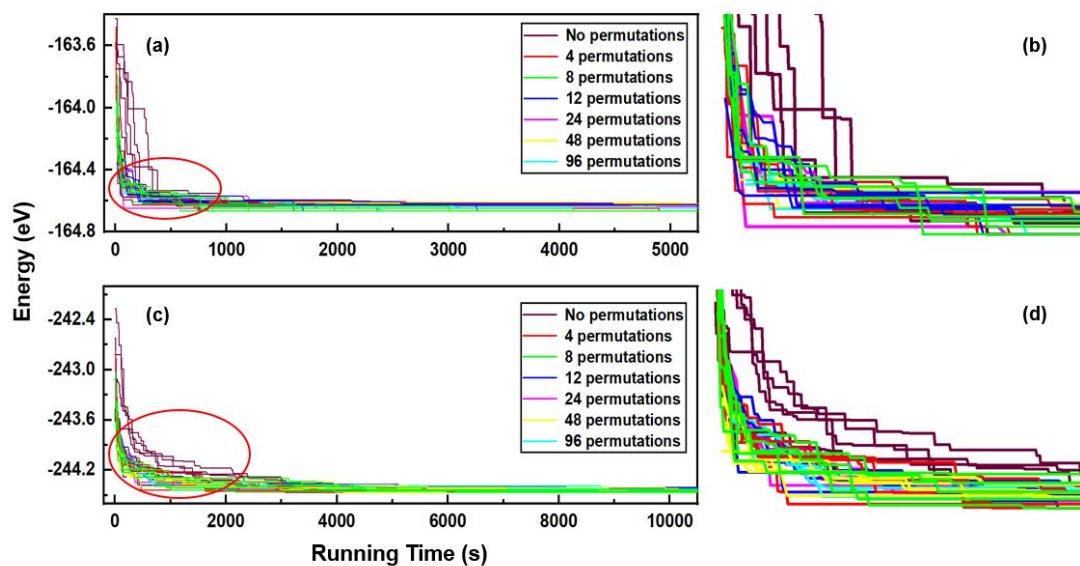


Figure S7 The energy evolutions of (a) $\text{Pt}_{19}\text{Ni}_{19}$ and (c) $\text{Pt}_{27}\text{Ni}_{28}$ clusters with the iterations by varying the number of permutations. (b) and (d) are respectively the enlarged versions of the circle region in (a) and (c).

