Supplement-Table 1: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest ten $^2\Sigma^+$ states

of NaLi$^+$ at different values of the internuclear distance R (bohr).

R	1 $^2\Sigma^+$	2 $^2\Sigma^+$	3 $^2\Sigma^+$	4 $^2\Sigma^+$	5 $^2\Sigma^+$	6 $^2\Sigma^+$	7 $^2\Sigma^+$	8 $^2\Sigma^+$	9 $^2\Sigma^+$	10 $^2\Sigma^+$
3.4	-0.362990	-0.250473	-0.181679	-0.127592	-0.085406	-0.070350	-0.055212	-0.038942	-0.030764	-0.022248
3.6	-0.379298	-0.264080	-0.201385	-0.141705	-0.100664	-0.088463	-0.071965	-0.054976	-0.046484	-0.038028
3.8	-0.393372	-0.275795	-0.218332	-0.153888	-0.114018	-0.104081	-0.086722	-0.069052	-0.060119	-0.051872
4.0	-0.405415	-0.286046	-0.232921	-0.164567	-0.125958	-0.117686	-0.099921	-0.081595	-0.072084	-0.064285
4.2	-0.415611	-0.295162	-0.245529	-0.175472	-0.136813	-0.129617	-0.111823	-0.092867	-0.082762	-0.075604
4.4	-0.424142	-0.303374	-0.256452	-0.185339	-0.146867	-0.140102	-0.122618	-0.103040	-0.092301	-0.086032
4.6	-0.431164	-0.310806	-0.265909	-0.194234	-0.156300	-0.149312	-0.132406	-0.112299	-0.100869	-0.095684
4.8	-0.436883	-0.317653	-0.274250	-0.202267	-0.165312	-0.157462	-0.141418	-0.120788	-0.108618	-0.104692
5.0	-0.441449	-0.323897	-0.281589	-0.209546	-0.173862	-0.164767	-0.149622	-0.128519	-0.115623	-0.113077
5.2	-0.445089	-0.329744	-0.288159	-0.216190	-0.182120	-0.171426	-0.157230	-0.135641	-0.122107	-0.121027
5.4	-0.447837	-0.335125	-0.293953	-0.222205	-0.189975	-0.177435	-0.164225	-0.142201	-0.128430	-0.127955
5.6	-0.449908	-0.340141	-0.299152	-0.227697	-0.197500	-0.182934	-0.170617	-0.148263	-0.135429	-0.133337
5.8	-0.451347	-0.344846	-0.303809	-0.232787	-0.204735	-0.187936	-0.176441	-0.153856	-0.142106	-0.138357
6.0	-0.452272	-0.349253	-0.308090	-0.237295	-0.211939	-0.192755	-0.181916	-0.158964	-0.148782	-0.142870
6.2	-0.452777	-0.353402	-0.311957	-0.241432	-0.218753	-0.197158	-0.186964	-0.163675	-0.154962	-0.147104
6.4	-0.452928	-0.357296	-0.315464	-0.245230	-0.225179	-0.201197	-0.191609	-0.168087	-0.160699	-0.150962
6.6	-0.452748	-0.360952	-0.318671	-0.248728	-0.231427	-0.205107	-0.195969	-0.172217	-0.166193	-0.154609
6.8	-0.452352	-0.364419	-0.321633	-0.251780	-0.237357	-0.208733	-0.199983	-0.176024	-0.171404	-0.158074
7.0	-0.451752	-0.367680	-0.324352	-0.254735	-0.242937	-0.212048	-0.203702	-0.179596	-0.176286	-0.161311
7.2	-0.450996	-0.370757	-0.326881	-0.257565	-0.248301	-0.215305	-0.207256	-0.183138	-0.180786	-0.164496
7.4	-0.450105	-0.373654	-0.329211	-0.260295	-0.253214	-0.218321	-0.210514	-0.186704	-0.184693	-0.167386
7.6	-0.449096	-0.376386	-0.331377	-0.263181	-0.257550	-0.221134	-0.213476	-0.190548	-0.187959	-0.170036

7.8	-0.447966	-0.378922	-0.333400	-0.266572	-0.261241	-0.223914	-0.216358	-0.194438	-0.190870	-0.173783
8.0	-0.446820	-0.381327	-0.335263	-0.269977	-0.263867	-0.226573	-0.219072	-0.198014	-0.193404	-0.177482
8.2	-0.445627	-0.383574	-0.337020	-0.273708	-0.265999	-0.229162	-0.221654	-0.201464	-0.195820	-0.181109
8.4	-0.444402	-0.385683	-0.338657	-0.277417	-0.267832	-0.231647	-0.224129	-0.204766	-0.198077	-0.184579
8.6	-0.443160	-0.387653	-0.340174	-0.280944	-0.269425	-0.233901	-0.226378	-0.207789	-0.200191	-0.187820
8.8	-0.441906	-0.389491	-0.341599	-0.284405	-0.270993	-0.236098	-0.228545	-0.210809	-0.202223	-0.190923
9.0	-0.440643	-0.391212	-0.342916	-0.287692	-0.272367	-0.238020	-0.230417	-0.213654	-0.204133	-0.193789
9.2	-0.439397	-0.392799	-0.344159	-0.290767	-0.273514	-0.240026	-0.232378	-0.216379	-0.206010	-0.196590
9.4	-0.438159	-0.394274	-0.345307	-0.293713	-0.274592	-0.242075	-0.234307	-0.218948	-0.207867	-0.199401
9.6	-0.436946	-0.395641	-0.346362	-0.296365	-0.275581	-0.243873	-0.236059	-0.221239	-0.209732	-0.201753
9.8	-0.435752	-0.396898	-0.347357	-0.298870	-0.276527	-0.245564	-0.237662	-0.223425	-0.211624	-0.203503
10.0	-0.434601	-0.398058	-0.348269	-0.301041	-0.277401	-0.247261	-0.239349	-0.225449	-0.213559	-0.205443
10.2	-0.433474	-0.399128	-0.349104	-0.303199	-0.278189	-0.248585	-0.240928	-0.227503	-0.215527	-0.207161
10.4	-0.432379	-0.400109	-0.349873	-0.305294	-0.279086	-0.250128	-0.242700	-0.229467	-0.217538	-0.208807
10.6	-0.431314	-0.401003	-0.350581	-0.307265	-0.279794	-0.251554	-0.244245	-0.231329	-0.219501	-0.210147
10.8	-0.430303	-0.401821	-0.351235	-0.309110	-0.280462	-0.252990	-0.245739	-0.233013	-0.221440	-0.211358
11.0	-0.429335	-0.402567	-0.351817	-0.310812	-0.281375	-0.254147	-0.247067	-0.234709	-0.223379	-0.212343
11.4	-0.427530	-0.403846	-0.352844	-0.313967	-0.282485	-0.256659	-0.249893	-0.237804	-0.227014	-0.214194
11.8	-0.425912	-0.404882	-0.353666	-0.316770	-0.283363	-0.259003	-0.252706	-0.240734	-0.230421	-0.215982
12.0	-0.425179	-0.405312	-0.353931	-0.317983	-0.283598	-0.260057	-0.254032	-0.241845	-0.231996	-0.216746
12.4	-0.423829	-0.406017	-0.354412	-0.320281	-0.284517	-0.262106	-0.256601	-0.244119	-0.234916	-0.217811
12.8	-0.422712	-0.406566	-0.354696	-0.322274	-0.285332	-0.264005	-0.259066	-0.246124	-0.237608	-0.218828
13.0	-0.422184	-0.406769	-0.354781	-0.323197	-0.285813	-0.264927	-0.260235	-0.247090	-0.238846	-0.219335
14.0	-0.419915	-0.407081	-0.354850	-0.324879	-0.286787	-0.266631	-0.262440	-0.248813	-0.241155	-0.220320
14.4	-0.419322	-0.407270	-0.354816	-0.326376	-0.287790	-0.268248	-0.264476	-0.250387	-0.243250	-0.221273
14.8	-0.418866	-0.407328	-0.354817	-0.327106	-0.288265	-0.268928	-0.265578	-0.251339	-0.244269	-0.221756
15.0	-0.418666	-0.407404	-0.354677	-0.328321	-0.289316	-0.270360	-0.267334	-0.252711	-0.246089	-0.222699
15.4	-0.418366	-0.407413	-0.354416	-0.329338	-0.290363	-0.271638	-0.268855	-0.253907	-0.247745	-0.223647
15.8	-0.418109	-0.407409	-0.354246	-0.329773	-0.290887	-0.272251	-0.269321	-0.254344	-0.248516	-0.224116

16.0	-0.418107	-0.407335	-0.353964	-0.330640	-0.292003	-0.273458	-0.270982	-0.255485	-0.249972	-0.225145
16.4	-0.417833	-0.407296	-0.353663	-0.331364	-0.293093	-0.274580	-0.272221	-0.256438	-0.251319	-0.226230
16.8	-0.417508	-0.407243	-0.353509	-0.331674	-0.293582	-0.275068	-0.272775	-0.256983	-0.251973	-0.226831
17.0	-0.417418	-0.407156	-0.353168	-0.332213	-0.294617	-0.276068	-0.273762	-0.257912	-0.253183	-0.228155
17.4	-0.417500	-0.407056	-0.352808	-0.332650	-0.295622	-0.276992	-0.274581	-0.258788	-0.254283	-0.229716
17.8	-0.417075	-0.407015	-0.352684	-0.332843	-0.296147	-0.277469	-0.274967	-0.259377	-0.254844	-0.230628
18.0	-0.417028	-0.406927	-0.352310	-0.333126	-0.297023	-0.278298	-0.275634	-0.260021	-0.255837	-0.232595
18.4	-0.416945	-0.406837	-0.351988	-0.333302	-0.297842	-0.279084	-0.276220	-0.260984	-0.256862	-0.234701
18.8	-0.416872	-0.406798	-0.351849	-0.333395	-0.298253	-0.279490	-0.276476	-0.261325	-0.257321	-0.235808
19.0	-0.416838	-0.406726	-0.351528	-0.333506	-0.298990	-0.280240	-0.276911	-0.261806	-0.258147	-0.237982
19.4	-0.416784	-0.406661	-0.351224	-0.333556	-0.299644	-0.280940	-0.277291	-0.262396	-0.258973	-0.240074
19.8	-0.416733	-0.406629	-0.351087	-0.333562	-0.299944	-0.281288	-0.277469	-0.262682	-0.259376	-0.241111
20.0	-0.416709	-0.406574	-0.350861	-0.333561	-0.300506	-0.281949	-0.277785	-0.263255	-0.260162	-0.243128
22.0	-0.416535	-0.406523	-0.350645	-0.333508	-0.300975	-0.282558	-0.278049	-0.263767	-0.260903	-0.244987
24.0	-0.416425	-0.406500	-0.350541	-0.333477	-0.301175	-0.282855	-0.278160	-0.263999	-0.261248	-0.245874
26.0	-0.416354	-0.406314	-0.349993	-0.332860	-0.302267	-0.285411	-0.278929	-0.265985	-0.264275	-0.253527
28.0	-0.416302	-0.406191	-0.349850	-0.332149	-0.302121	-0.287710	-0.279547	-0.267404	-0.266754	-0.258995
30.0	-0.416268	-0.406115	-0.349495	-0.331589	-0.300775	-0.288786	-0.279594	-0.268707	-0.268171	-0.262447
32.0	-0.416241	-0.406067	-0.349279	-0.331199	-0.299281	-0.289893	-0.279806	-0.270168	-0.268885	-0.264707
34.0	-0.416225	-0.406026	-0.348861	-0.330914	-0.297762	-0.290611	-0.280044	-0.271404	-0.269614	-0.266110
36.0	-0.416215	-0.405997	-0.348983	-0.330727	-0.296485	-0.291037	-0.279820	-0.272075	-0.269994	-0.267106
38.0	-0.416205	-0.406007	-0.348537	-0.330559	-0.295323	-0.291129	-0.279409	-0.272658	-0.270133	-0.267748
40.0	-0.416196	-0.406003	-0.348521	-0.330459	-0.294635	-0.291116	-0.278942	-0.273024	-0.270366	-0.268217
42.0	-0.416193	-0.405994	-0.348440	-0.330332	-0.294176	-0.290991	-0.278433	-0.273212	-0.270662	-0.268492
44.0	-0.416189	-0.405981	-0.348377	-0.330285	-0.293648	-0.290819	-0.277898	-0.273316	-0.270906	-0.268693
46.0	-0.416185	-0.405978	-0.348264	-0.330229	-0.293440	-0.290684	-0.277438	-0.273280	-0.271091	-0.268822
48.0	-0.416183	-0.405926	-0.348262	-0.330193	-0.293523	-0.290557	-0.277105	-0.273188	-0.271277	-0.268902
50.0	-0.416180	-0.405924	-0.348214	-0.330143	-0.293127	-0.290465	-0.276784	-0.273075	-0.271422	-0.269012

Supplement-Table 2: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest six $^2\Pi$ and

two $^2\Delta$ states of NaLi$^+$ at different values of the internuclear distance R (bohr).

	$1^2\Pi$	$2^2\Pi$	$3^2\Pi$	$4^2\Pi$	$5^2\Pi$	$6^2\Pi$	$1^2\Delta$	$2^2\Delta$
3.4	-0.281845	-0.151090	-0.102685	-0.055930	-0.051134	-0.070350	-0.127621	-0.046325
3.6	-0.293040	-0.166625	-0.117497	-0.072911	-0.066971	-0.088463	-0.141702	-0.062446
3.8	-0.302237	-0.180248	-0.130243	-0.087893	-0.080848	-0.104081	-0.153907	-0.076761
4.0	-0.309902	-0.192398	-0.141444	-0.101282	-0.093221	-0.117686	-0.164595	-0.089525
4.2	-0.316371	-0.203387	-0.151371	-0.113431	-0.104395	-0.129617	-0.174073	-0.101110
4.4	-0.321879	-0.213350	-0.160272	-0.124488	-0.114537	-0.140102	-0.182553	-0.111682
4.6	-0.326497	-0.222432	-0.168217	-0.134589	-0.123793	-0.149312	-0.190120	-0.121336
4.8	-0.330526	-0.230830	-0.175422	-0.143906	-0.132346	-0.157462	-0.196962	-0.130285
5.0	-0.333949	-0.238522	-0.181923	-0.152434	-0.140214	-0.164767	-0.203071	-0.138471
5.2	-0.336937	-0.245662	-0.187922	-0.160452	-0.147547	-0.171426	-0.208733	-0.146127
5.4	-0.339438	-0.252161	-0.193334	-0.167879	-0.154238	-0.177435	-0.213773	-0.153092
5.6	-0.341575	-0.258164	-0.198271	-0.174827	-0.160467	-0.182934	-0.218408	-0.159672
5.8	-0.343403	-0.263699	-0.202788	-0.181212	-0.166240	-0.187936	-0.222642	-0.165751
6.0	-0.344938	-0.268830	-0.206925	-0.187143	-0.171573	-0.192755	-0.226592	-0.171410
6.2	-0.346262	-0.273571	-0.210794	-0.192757	-0.176573	-0.197158	-0.230091	-0.176846
6.4	-0.347339	-0.277902	-0.214241	-0.198009	-0.181180	-0.201197	-0.233166	-0.181756
6.6	-0.348226	-0.281932	-0.217428	-0.202917	-0.185499	-0.205107	-0.236095	-0.186116
6.8	-0.348983	-0.285699	-0.220405	-0.207624	-0.189598	-0.208733	-0.238779	-0.190454
7.0	-0.349579	-0.289181	-0.223143	-0.212009	-0.193418	-0.212048	-0.241265	-0.194520
7.2	-0.350087	-0.292396	-0.225695	-0.216168	-0.196999	-0.215305	-0.243549	-0.198341
7.4	-0.350478	-0.295396	-0.228066	-0.220077	-0.200373	-0.218321	-0.245653	-0.201939
7.6	-0.350811	-0.298169	-0.230261	-0.223820	-0.203568	-0.221134	-0.247576	-0.205325

7.8	-0.351033	-0.300741	-0.232302	-0.227304	-0.206550	-0.223914	-0.249382	-0.208542
8.0	-0.351189	-0.303123	-0.234237	-0.230629	-0.209392	-0.226573	-0.251042	-0.211579
8.2	-0.351278	-0.305326	-0.236103	-0.233596	-0.212038	-0.229162	-0.252564	-0.214417
8.4	-0.351283	-0.307369	-0.238181	-0.236261	-0.214583	-0.231647	-0.253992	-0.217114
8.6	-0.351310	-0.309284	-0.240457	-0.238315	-0.216952	-0.233901	-0.255243	-0.219660
8.8	-0.351283	-0.311061	-0.242935	-0.239941	-0.219219	-0.236098	-0.256422	-0.222058
9.0	-0.351216	-0.312793	-0.245410	-0.241213	-0.221382	-0.238020	-0.257601	-0.224344
9.2	-0.351083	-0.314252	-0.247718	-0.242411	-0.223330	-0.240026	-0.258620	-0.226468
9.4	-0.350978	-0.315652	-0.250045	-0.243534	-0.225253	-0.242075	-0.259830	-0.228526
9.6	-0.350852	-0.316926	-0.252214	-0.244575	-0.227007	-0.243873	-0.260723	-0.230479
9.8	-0.350703	-0.318092	-0.254266	-0.245548	-0.228680	-0.245564	-0.261527	-0.232319
10.0	-0.350499	-0.319096	-0.256208	-0.246426	-0.230248	-0.247261	-0.262120	-0.234049
10.2	-0.350328	-0.320109	-0.257849	-0.247241	-0.231739	-0.248585	-0.262442	-0.236079
10.4	-0.350167	-0.321041	-0.259623	-0.248021	-0.233205	-0.250128	-0.262992	-0.237736
10.6	-0.349983	-0.321866	-0.261324	-0.248674	-0.234553	-0.251554	-0.263576	-0.239155
10.8	-0.349664	-0.322532	-0.262907	-0.249337	-0.235837	-0.252990	-0.264130	-0.240573
11.0	-0.349507	-0.323278	-0.264436	-0.249976	-0.237100	-0.254147	-0.264638	-0.241389
11.4	-0.349253	-0.324553	-0.267280	-0.251186	-0.239454	-0.256659	-0.265542	-0.243942
11.8	-0.348953	-0.325596	-0.269800	-0.252284	-0.241599	-0.259003	-0.266322	-0.246252
12.0	-0.348673	-0.326021	-0.270950	-0.252807	-0.242641	-0.260057	-0.266672	-0.247325
12.4	-0.348441	-0.326820	-0.273156	-0.253831	-0.244581	-0.262106	-0.267294	-0.249363
12.8	-0.348234	-0.327470	-0.275082	-0.254767	-0.246294	-0.264005	-0.267748	-0.251153
13.0	-0.348168	-0.327738	-0.275906	-0.255200	-0.247082	-0.264927	-0.267981	-0.251999
14.0	-0.348099	-0.328195	-0.277567	-0.256146	-0.248697	-0.266631	-0.268408	-0.253649
14.4	-0.347825	-0.328536	-0.278858	-0.256857	-0.249961	-0.268248	-0.268743	-0.255061
14.8	-0.347784	-0.328690	-0.279508	-0.257259	-0.250637	-0.268928	-0.268930	-0.255704
15.0	-0.347672	-0.328940	-0.280663	-0.258011	-0.251888	-0.270360	-0.268984	-0.256852
15.4	-0.347619	-0.329138	-0.281612	-0.258730	-0.252975	-0.271638	-0.269161	-0.258004
15.8	-0.347577	-0.329204	-0.281984	-0.259062	-0.253473	-0.272251	-0.269240	-0.258534

16.0	-0.347528	-0.329330	-0.282716	-0.259730	-0.254496	-0.273458	-0.269400	-0.259554
16.4	-0.347475	-0.329417	-0.283337	-0.260340	-0.255453	-0.274580	-0.269526	-0.260479
16.8	-0.347484	-0.329468	-0.283632	-0.260648	-0.255932	-0.275068	-0.269594	-0.260924
17.0	-0.347480	-0.329515	-0.284119	-0.261233	-0.256866	-0.276068	-0.269698	-0.261741
17.4	-0.347463	-0.329550	-0.284499	-0.261766	-0.257759	-0.276992	-0.269825	-0.262516
17.8	-0.347454	-0.329571	-0.284647	-0.262016	-0.258168	-0.277469	-0.269883	-0.262884
18.0	-0.347417	-0.329596	-0.284867	-0.262444	-0.258809	-0.278298	-0.269947	-0.263542
18.4	-0.347409	-0.329629	-0.284992	-0.262902	-0.259557	-0.279084	-0.269982	-0.264121
18.8	-0.347418	-0.329637	-0.285045	-0.263145	-0.259985	-0.279490	-0.270010	-0.264405
19.0	-0.347425	-0.329653	-0.285059	-0.263574	-0.260649	-0.280240	-0.270061	-0.264932
19.4	-0.347424	-0.329655	-0.284987	-0.263971	-0.261189	-0.280940	-0.270115	-0.265420
19.8	-0.347443	-0.329639	-0.284951	-0.264193	-0.261530	-0.281288	-0.270146	-0.265654
20.0	-0.347458	-0.329652	-0.284830	-0.264620	-0.262144	-0.281949	-0.270148	-0.266012
22.0	-0.347475	-0.329658	-0.284645	-0.265038	-0.262694	-0.282558	-0.270199	-0.266406
24.0	-0.347481	-0.329662	-0.284553	-0.265254	-0.263007	-0.282855	-0.270223	-0.266588
26.0	-0.347545	-0.329676	-0.283300	-0.267556	-0.265195	-0.285411	-0.270514	-0.268126
28.0	-0.347628	-0.329695	-0.281897	-0.269612	-0.266637	-0.287710	-0.270748	-0.269016
30.0	-0.347648	-0.329747	-0.280609	-0.271042	-0.267674	-0.288786	-0.270997	-0.269601
32.0	-0.347657	-0.329772	-0.279507	-0.271929	-0.268462	-0.289893	-0.271221	-0.269982
34.0	-0.347660	-0.329776	-0.278599	-0.272420	-0.269083	-0.290611	-0.271413	-0.270251
36.0	-0.347678	-0.329782	-0.277883	-0.272650	-0.269600	-0.291037	-0.271571	-0.270480
38.0	-0.347704	-0.329800	-0.277335	-0.272737	-0.270033	-0.291129	-0.271705	-0.270613
40.0	-0.347733	-0.329830	-0.276915	-0.272715	-0.270394	-0.291116	-0.271816	-0.270799
42.0	-0.347932	-0.329817	-0.276880	-0.272648	-0.270804	-0.290991	-0.271905	-0.270870
44.0	-0.347749	-0.329844	-0.276306	-0.272517	-0.270931	-0.290819	-0.271980	-0.271130
46.0	-0.347694	-0.329838	-0.275986	-0.272399	-0.271101	-0.290684	-0.272041	-0.271169
48.0	-0.347702	-0.329858	-0.275814	-0.272282	-0.271278	-0.290557	-0.272094	-0.271179
50.0	-0.347707	-0.329853	-0.275673	-0.272187	-0.271429	-0.290465	-0.272135	-0.271069

Supplement-Table 3: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest nine $^1\Sigma^+$ states

of NaLi at different values of the internuclear distance R (bohr).

R	$1^1\Sigma^+$	$2^1\Sigma^+$	$3^1\Sigma^+$	$4^1\Sigma^+$	$5^1\Sigma^+$	$6^1\Sigma^+$	$7^1\Sigma^+$	$8^1\Sigma^+$	$9^1\Sigma^+$
3.4	-0.577392	-0.482520	-0.452423	-0.431040	-0.413826	-0.406279	-0.396194	-0.388732	-0.388877
3.6	-0.590235	-0.498479	-0.467150	-0.446426	-0.429767	-0.422182	-0.412022	-0.404909	-0.402334
3.8	-0.600947	-0.512217	-0.479894	-0.459612	-0.443492	-0.435842	-0.425455	-0.418898	-0.416668
4.0	-0.609754	-0.523847	-0.490834	-0.472150	-0.455185	-0.447531	-0.436783	-0.431477	-0.428324
4.2	-0.616851	-0.533820	-0.500315	-0.480798	-0.465163	-0.457528	-0.446316	-0.441404	-0.438892
4.4	-0.622471	-0.542048	-0.508531	-0.488299	-0.473495	-0.466024	-0.454393	-0.449925	-0.447779
4.6	-0.626718	-0.548819	-0.515445	-0.494926	-0.480388	-0.473140	-0.461017	-0.456925	-0.455266
4.8	-0.629767	-0.554308	-0.521182	-0.500229	-0.485789	-0.478961	-0.466287	-0.462767	-0.461385
5.0	-0.631847	-0.558698	-0.525929	-0.504469	-0.490213	-0.483801	-0.470499	-0.467724	-0.466120
5.2	-0.633099	-0.562167	-0.529821	-0.507733	-0.493667	-0.487721	-0.473746	-0.471983	-0.469361
5.4	-0.633727	-0.564957	-0.533020	-0.510220	-0.496325	-0.491004	-0.476361	-0.475140	-0.472202
5.5	-0.633765	-0.566038	-0.534379	-0.511129	-0.497376	-0.492372	-0.477415	-0.476522	-0.473276
5.6	-0.633689	-0.566948	-0.535581	-0.511972	-0.498298	-0.493669	-0.478363	-0.477870	-0.474179
5.8	-0.633212	-0.568291	-0.537585	-0.513145	-0.499651	-0.495825	-0.479754	-0.479953	-0.475517
6.0	-0.632366	-0.569196	-0.539253	-0.513949	-0.500572	-0.497642	-0.481026	-0.481514	-0.476524
6.2	-0.631054	-0.569712	-0.540587	-0.514360	-0.501138	-0.499116	-0.482296	-0.482294	-0.477177
6.4	-0.629785	-0.569880	-0.541661	-0.514468	-0.501354	-0.500252	-0.483772	-0.482245	-0.477499
6.6	-0.628367	-0.569761	-0.542523	-0.514358	-0.501609	-0.500735	-0.484066	-0.482834	-0.477390
6.8	-0.626822	-0.569409	-0.543208	-0.513973	-0.502543	-0.500362	-0.484344	-0.483137	-0.477047
7.0	-0.625149	-0.568771	-0.543645	-0.513451	-0.502622	-0.499565	-0.484223	-0.483349	-0.476347
7.2	-0.623570	-0.568059	-0.544122	-0.512923	-0.502434	-0.499754	-0.483978	-0.483476	-0.475678
7.4	-0.621959	-0.567220	-0.544392	-0.512260	-0.502082	-0.498748	-0.484026	-0.482941	-0.474807
7.6	-0.620367	-0.566278	-0.544455	-0.511583	-0.501601	-0.497874	-0.484316	-0.482183	-0.474046
7.8	-0.618845	-0.565244	-0.544541	-0.510902	-0.501038	-0.496971	-0.484218	-0.481678	-0.473236

8.0	-0.617390	-0.564265	-0.544521	-0.510237	-0.500215	-0.496295	-0.484611	-0.480893	-0.472962
8.2	-0.615946	-0.563069	-0.544374	-0.509559	-0.499373	-0.495275	-0.484925	-0.479936	-0.472437
8.4	-0.614649	-0.561869	-0.544182	-0.508928	-0.498465	-0.494394	-0.485376	-0.479067	-0.472602
8.6	-0.613431	-0.560674	-0.543888	-0.508328	-0.497555	-0.493740	-0.485888	-0.478233	-0.472754
8.8	-0.612519	-0.559482	-0.543576	-0.507756	-0.496589	-0.493253	-0.486184	-0.477404	-0.472809
9.0	-0.611485	-0.558254	-0.543146	-0.507216	-0.495643	-0.493020	-0.486172	-0.476615	-0.472582
9.2	-0.610517	-0.556993	-0.542617	-0.506620	-0.494832	-0.493142	-0.485807	-0.475868	-0.472434
9.4	-0.609666	-0.555777	-0.542094	-0.506198	-0.494589	-0.493519	-0.485285	-0.475272	-0.472259
9.6	-0.608908	-0.554574	-0.541555	-0.505905	-0.495676	-0.493473	-0.484444	-0.474819	-0.472031
9.8	-0.608246	-0.553416	-0.540972	-0.505656	-0.496215	-0.492280	-0.483861	-0.474422	-0.471754
10.0	-0.607653	-0.552288	-0.540355	-0.505477	-0.496731	-0.491423	-0.483209	-0.474067	-0.471391
10.2	-0.607102	-0.551147	-0.539648	-0.505330	-0.497340	-0.490546	-0.482526	-0.473723	-0.471053
10.4	-0.606617	-0.550051	-0.538981	-0.505317	-0.497814	-0.489776	-0.481851	-0.473429	-0.470701
10.6	-0.606207	-0.548990	-0.538273	-0.505361	-0.498199	-0.488987	-0.481241	-0.473115	-0.470344
10.8	-0.605861	-0.547982	-0.537561	-0.505442	-0.498546	-0.488302	-0.480671	-0.472785	-0.469936
11.0	-0.605549	-0.547007	-0.536841	-0.505549	-0.498887	-0.487675	-0.480135	-0.472500	-0.469182
11.4	-0.605046	-0.545161	-0.535437	-0.505870	-0.498985	-0.486675	-0.479133	-0.472043	-0.468175
11.8	-0.604679	-0.543509	-0.534096	-0.506176	-0.498922	-0.485930	-0.478277	-0.471693	-0.467623
12.0	-0.604527	-0.542747	-0.533459	-0.506301	-0.498658	-0.485642	-0.477879	-0.471534	-0.466653
12.4	-0.604284	-0.541421	-0.532295	-0.506485	-0.498170	-0.485250	-0.477310	-0.471265	-0.465658
12.8	-0.604106	-0.540270	-0.531223	-0.506517	-0.497848	-0.484961	-0.476840	-0.471033	-0.465083
3.0	-0.604041	-0.539775	-0.530733	-0.506485	-0.497104	-0.484876	-0.476687	-0.470886	-0.464127
13.4	-0.603932	-0.538887	-0.529848	-0.506284	-0.496192	-0.484747	-0.476390	-0.470694	-0.463336
13.8	-0.603845	-0.538156	-0.529104	-0.505908	-0.495689	-0.484691	-0.476225	-0.470537	-0.462934
14.0	-0.603817	-0.537837	-0.528772	-0.505641	-0.494695	-0.484661	-0.476199	-0.470458	-0.462311
14.4	-0.603768	-0.537321	-0.528253	-0.505044	-0.493599	-0.484681	-0.476110	-0.470336	-0.461796
14.8	-0.603722	-0.536852	-0.527825	-0.504287	-0.493037	-0.484703	-0.476069	-0.470242	-0.461566
15.0	-0.603703	-0.536651	-0.527650	-0.503857	-0.491882	-0.484715	-0.476061	-0.470167	-0.461220
15.4	-0.603675	-0.536329	-0.527395	-0.502947	-0.490675	-0.484758	-0.476058	-0.470085	-0.460942

15.8	-0.603648	-0.536043	-0.527193	-0.501955	-0.490036	-0.484831	-0.476057	-0.470003	-0.460809
16.0	-0.603640	-0.535918	-0.527113	-0.501447	-0.488691	-0.484881	-0.476048	-0.469978	-0.460586
16.4	-0.603621	-0.535692	-0.526990	-0.500401	-0.487734	-0.485040	-0.476036	-0.469927	-0.460527
16.8	-0.603600	-0.535529	-0.526904	-0.499322	-0.487242	-0.484985	-0.476071	-0.469884	-0.460447
17.0	-0.603592	-0.535460	-0.526872	-0.498796	-0.486311	-0.485007	-0.476125	-0.469865	-0.460380
17.4	-0.603585	-0.535360	-0.526820	-0.497703	-0.485078	-0.485109	-0.476106	-0.469834	-0.460242
17.8	-0.603574	-0.535253	-0.526787	-0.496632	-0.485060	-0.485144	-0.476001	-0.469810	-0.460010
18.0	-0.603573	-0.535199	-0.526780	-0.496092	-0.485060	-0.484683	-0.475912	-0.469792	-0.460533
18.4	-0.603572	-0.535132	-0.526772	-0.495033	-0.485061	-0.483788	-0.475716	-0.469778	-0.461073
18.8	-0.603566	-0.535072	-0.526770	-0.494005	-0.485069	-0.482994	-0.475447	-0.469762	-0.461313
19.0	-0.603567	-0.535043	-0.526775	-0.493534	-0.485070	-0.482641	-0.475283	-0.469755	-0.461773
19.4	-0.603562	-0.534998	-0.526781	-0.492648	-0.484986	-0.482026	-0.474937	-0.469741	-0.462186
19.8	-0.603555	-0.534946	-0.526786	-0.491737	-0.484930	-0.481502	-0.474472	-0.469721	-0.462381
20.0	-0.603554	-0.534931	-0.526789	-0.491299	-0.483502	-0.481281	-0.474199	-0.469700	-0.464116
22.0	-0.603547	-0.534801	-0.526898	-0.488578	-0.480463	-0.480049	-0.471090	-0.469779	-0.465157
24.0	-0.603556	-0.534737	-0.526965	-0.487749	-0.479255	-0.479586	-0.469421	-0.467685	-0.464631
26.0	-0.603549	-0.534675	-0.526969	-0.487489	-0.479179	-0.477337	-0.469390	-0.465848	-0.462770
28.0	-0.603539	-0.534636	-0.526979	-0.487402	-0.479161	-0.474524	-0.469378	-0.466184	-0.462159
30.0	-0.603537	-0.534633	-0.526988	-0.487426	-0.479358	-0.472604	-0.469376	-0.466358	-0.461957
32.0	-0.603536	-0.534653	-0.526999	-0.487451	-0.479372	-0.469607	-0.469372	-0.466474	-0.461843
34.0	-0.603533	-0.534629	-0.526981	-0.487474	-0.479410	-0.469523	-0.467625	-0.466826	-0.461769
36.0	-0.603535	-0.534626	-0.526974	-0.487515	-0.479407	-0.469484	-0.466875	-0.466082	-0.461715
38.0	-0.603523	-0.534603	-0.527050	-0.487537	-0.479421	-0.469491	-0.466771	-0.464818	-0.461696
40.0	-0.603531	-0.534594	-0.527029	-0.487554	-0.479419	-0.469358	-0.466681	-0.463540	-0.461678
42.0	-0.603533	-0.534584	-0.527066	-0.487579	-0.479434	-0.469349	-0.466724	-0.462370	-0.461246
44.0	-0.603530	-0.534591	-0.527091	-0.487590	-0.479472	-0.469333	-0.466746	-0.461681	-0.460221
46.0	-0.603526	-0.534620	-0.527108	-0.487587	-0.479484	-0.469330	-0.466759	-0.461705	-0.459269
48.0	-0.603523	-0.534630	-0.527111	-0.487573	-0.479494	-0.469326	-0.466758	-0.461687	-0.458376
50.0	-0.603520	-0.534640	-0.527082	-0.487558	-0.413826	-0.469324	-0.466720	-0.461682	-0.388877

Supplement-Table 4: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest eight $^3\Sigma^+$ states of NaLi at different values of the internuclear distance R (bohr).

R	$1^3\Sigma^+$	$2^3\Sigma^+$	$3^3\Sigma^+$	$4^3\Sigma^+$	$5^3\Sigma^+$	$6^3\Sigma^+$	$7^3\Sigma^+$	$8^3\Sigma^+$
3.4	-0.517410	-0.455728	-0.427706	-0.418913	-0.403785	-0.392867	-0.385844	-0.383703
3.6	-0.531409	-0.474325	-0.444046	-0.434904	-0.421482	-0.411084	-0.402964	-0.400005
3.8	-0.543114	-0.489992	-0.457592	-0.448210	-0.436116	-0.424887	-0.417329	-0.413791
4.0	-0.553120	-0.503396	-0.469195	-0.459286	-0.448595	-0.436705	-0.429518	-0.425541
4.2	-0.561668	-0.514757	-0.479048	-0.468773	-0.459114	-0.446759	-0.439596	-0.435537
4.4	-0.569041	-0.524172	-0.487367	-0.476963	-0.467886	-0.455169	-0.448364	-0.443777
4.6	-0.575279	-0.531902	-0.494207	-0.483882	-0.475087	-0.462040	-0.455738	-0.450487
4.8	-0.580536	-0.538147	-0.499736	-0.489537	-0.480834	-0.467580	-0.461918	-0.456054
5.0	-0.584891	-0.543133	-0.504203	-0.494074	-0.485430	-0.472041	-0.466920	-0.460488
5.2	-0.588313	-0.547047	-0.507699	-0.497642	-0.488997	-0.475544	-0.471063	-0.463710
5.4	-0.591311	-0.550344	-0.510404	-0.500391	-0.491681	-0.478138	-0.474328	-0.466598
5.5	-0.592620	-0.551596	-0.511571	-0.501625	-0.492801	-0.479265	-0.476053	-0.471589
5.6	-0.593811	-0.552671	-0.512536	-0.502598	-0.493711	-0.480153	-0.477724	-0.473147
5.8	-0.595827	-0.554257	-0.513777	-0.504013	-0.494938	-0.481661	-0.480517	-0.476073
6.0	-0.597491	-0.555387	-0.514594	-0.505094	-0.495846	-0.483002	-0.482819	-0.477588
6.2	-0.598876	-0.556074	-0.514953	-0.505695	-0.496361	-0.487840	-0.481697	-0.478613
6.4	-0.600001	-0.556455	-0.515112	-0.506054	-0.496687	-0.489884	-0.482498	-0.479385
6.6	-0.600892	-0.556492	-0.514877	-0.506135	-0.496835	-0.492045	-0.482570	-0.479788
6.8	-0.601581	-0.556323	-0.514403	-0.506138	-0.497275	-0.493443	-0.482613	-0.479635
7.0	-0.602136	-0.556026	-0.513618	-0.505948	-0.498455	-0.493506	-0.482494	-0.478897
7.2	-0.602479	-0.555560	-0.512663	-0.505676	-0.500820	-0.492857	-0.482152	-0.477970
7.4	-0.602840	-0.554968	-0.511628	-0.505484	-0.502400	-0.492033	-0.481759	-0.476946
7.6	-0.603128	-0.554259	-0.510363	-0.505700	-0.503151	-0.491012	-0.481193	-0.475747

7.8	-0.603360	-0.553483	-0.509225	-0.506545	-0.503235	-0.490002	-0.480654	-0.474667
8.0	-0.603527	-0.552695	-0.508005	-0.507655	-0.502872	-0.488889	-0.480171	-0.473408
8.2	-0.603635	-0.551747	-0.509146	-0.506333	-0.502193	-0.487664	-0.479571	-0.472659
8.4	-0.603733	-0.550959	-0.510875	-0.505183	-0.501047	-0.486547	-0.479107	-0.471563
8.6	-0.603803	-0.550127	-0.512198	-0.503836	-0.500148	-0.485347	-0.478586	-0.470358
8.8	-0.603840	-0.549312	-0.513443	-0.502486	-0.499274	-0.484178	-0.478054	-0.469113
9.0	-0.603846	-0.548480	-0.514572	-0.501110	-0.498428	-0.483015	-0.477576	-0.467894
9.2	-0.603823	-0.547657	-0.515580	-0.499746	-0.497586	-0.481871	-0.477050	-0.466672
9.4	-0.603818	-0.546888	-0.516552	-0.498452	-0.496793	-0.480806	-0.476639	-0.465536
9.6	-0.603823	-0.546139	-0.517450	-0.497190	-0.496000	-0.479848	-0.476182	-0.464521
9.8	-0.603830	-0.545423	-0.518283	-0.496027	-0.495211	-0.478989	-0.475716	-0.463649
10.0	-0.603809	-0.544736	-0.519028	-0.494931	-0.494335	-0.478225	-0.475210	-0.462992
10.2	-0.603756	-0.544016	-0.519697	-0.493991	-0.493307	-0.477560	-0.474488	-0.462420
10.4	-0.603732	-0.543384	-0.520317	-0.493267	-0.492304	-0.477105	-0.473942	-0.462790
10.6	-0.603706	-0.542769	-0.520846	-0.492763	-0.491367	-0.476937	-0.473269	-0.463858
10.8	-0.603962	-0.542196	-0.521370	-0.492221	-0.490411	-0.476727	-0.472568	-0.462989
11.0	-0.603930	-0.541675	-0.521854	-0.491728	-0.489482	-0.476650	-0.471933	-0.463570
11.4	-0.603995	-0.540701	-0.522684	-0.490903	-0.487724	-0.476649	-0.470593	-0.464010
11.8	-0.603939	-0.539826	-0.523391	-0.490253	-0.486207	-0.476743	-0.469593	-0.464300
12.0	-0.603910	-0.539439	-0.523686	-0.489984	-0.485515	-0.476809	-0.469157	-0.464393
12.4	-0.603867	-0.538751	-0.524237	-0.489619	-0.484386	-0.477022	-0.468450	-0.464633
12.8	-0.603809	-0.538216	-0.524707	-0.489276	-0.483342	-0.477080	-0.467920	-0.464591
3.0	-0.603789	-0.537968	-0.524901	-0.489135	-0.482904	-0.477087	-0.467741	-0.464668
13.4	-0.603752	-0.537517	-0.525238	-0.488844	-0.482066	-0.477025	-0.467502	-0.464781
13.8	-0.603722	-0.537077	-0.525518	-0.488580	-0.481408	-0.476820	-0.467390	-0.465182
14.0	-0.603711	-0.536870	-0.525629	-0.488485	-0.481156	-0.476645	-0.467330	-0.464625
14.4	-0.603696	-0.536547	-0.525832	-0.488386	-0.480700	-0.476422	-0.467343	-0.464428
14.8	-0.603670	-0.536238	-0.525982	-0.488262	-0.480397	-0.476109	-0.467345	-0.464688
15.0	-0.603659	-0.536115	-0.526042	-0.488220	-0.480251	-0.475885	-0.467363	-0.464501

15.4	-0.603641	-0.535909	-0.526155	-0.488139	-0.480093	-0.475498	-0.467402	-0.464291
15.8	-0.603624	-0.535735	-0.526250	-0.488046	-0.479949	-0.475084	-0.467438	-0.464185
16.0	-0.603614	-0.535652	-0.526298	-0.488006	-0.479913	-0.474898	-0.467462	-0.463884
16.4	-0.603591	-0.535541	-0.526424	-0.487935	-0.479838	-0.474514	-0.467516	-0.463427
16.8	-0.603582	-0.535412	-0.526493	-0.487873	-0.479806	-0.474159	-0.467563	-0.463377
17.0	-0.603580	-0.535357	-0.526522	-0.487838	-0.479790	-0.473981	-0.467568	-0.463359
17.4	-0.603572	-0.535269	-0.526562	-0.487759	-0.479760	-0.473650	-0.467585	-0.463349
17.8	-0.603564	-0.535194	-0.526600	-0.487712	-0.479723	-0.473358	-0.467606	-0.463361
18.0	-0.603559	-0.535161	-0.526616	-0.487686	-0.479709	-0.473217	-0.467615	-0.463358
18.4	-0.603550	-0.535095	-0.526637	-0.487637	-0.479678	-0.472934	-0.467621	-0.463330
18.8	-0.603555	-0.535043	-0.526698	-0.487623	-0.479645	-0.472675	-0.467724	-0.463248
19.0	-0.603552	-0.535012	-0.526707	-0.487609	-0.479629	-0.472547	-0.467733	-0.463221
19.4	-0.603551	-0.534938	-0.526676	-0.487565	-0.479585	-0.472290	-0.467714	-0.463139
19.8	-0.603546	-0.534903	-0.526695	-0.487666	-0.479591	-0.472189	-0.467760	-0.463198
20.0	-0.603546	-0.534878	-0.526698	-0.487572	-0.479587	-0.472050	-0.467739	-0.463189
22.0	-0.603543	-0.534746	-0.526790	-0.487454	-0.479391	-0.471032	-0.467648	-0.462805
24.0	-0.603543	-0.534700	-0.526851	-0.487334	-0.479264	-0.470188	-0.467397	-0.462526
26.0	-0.603531	-0.534625	-0.526959	-0.487221	-0.479220	-0.469867	-0.467324	-0.462209
28.0	-0.603530	-0.534606	-0.526941	-0.487127	-0.479193	-0.469646	-0.467152	-0.462046
30.0	-0.603521	-0.534593	-0.526938	-0.487319	-0.479149	-0.469619	-0.467000	-0.461945
32.0	-0.603522	-0.534594	-0.526958	-0.487356	-0.479111	-0.469605	-0.466921	-0.461868
34.0	-0.603517	-0.534591	-0.526980	-0.487436	-0.479104	-0.469563	-0.466863	-0.461796
36.0	-0.603518	-0.534570	-0.526971	-0.487443	-0.479087	-0.469463	-0.466799	-0.461723
38.0	-0.603523	-0.534555	-0.526867	-0.487501	-0.479068	-0.469297	-0.466551	-0.461687
40.0	-0.603522	-0.534552	-0.527031	-0.487533	-0.479348	-0.469281	-0.466732	-0.461665
42.0	-0.603525	-0.534545	-0.527043	-0.487556	-0.479378	-0.469278	-0.466724	-0.461641
44.0	-0.603525	-0.534576	-0.527061	-0.487573	-0.479426	-0.469270	-0.466719	-0.461660
46.0	-0.603520	-0.534611	-0.527084	-0.487560	-0.479453	-0.469266	-0.466739	-0.461686
48.0	-0.603519	-0.534627	-0.527089	-0.487554	-0.479479	-0.469263	-0.466737	-0.461669

| 50.0 | -0.603513 | -0.534636 | -0.527057 | -0.487549 | -0.479463 | -0.469265 | -0.466693 | -0.461664 |

Supplement-Table 5: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest seven $^1\Pi$ states of NaLi at different values of the internuclear distance R (bohr).

	$1^1\Pi$	$2^1\Pi$	$3^1\Pi$	$4^1\Pi$	$5^1\Pi$	$6^1\Pi$	$7^1\Pi$
3.4	-0.474133	-0.448502	-0.418499	-0.406610	-0.389974	-0.389323	-0.384588
3.6	-0.487285	-0.462001	-0.433171	-0.421754	-0.405927	-0.404485	-0.400964
3.8	-0.498489	-0.473678	-0.445721	-0.434862	-0.419596	-0.417362	-0.414828
4.0	-0.508029	-0.483863	-0.456418	-0.446089	-0.431210	-0.428474	-0.426137
4.2	-0.516021	-0.492676	-0.465453	-0.455695	-0.441044	-0.438420	-0.435246
4.4	-0.522698	-0.500275	-0.473042	-0.463746	-0.449348	-0.446968	-0.442285
4.6	-0.528155	-0.506790	-0.479278	-0.470492	-0.456226	-0.454200	-0.447955
4.8	-0.532416	-0.512270	-0.484306	-0.475999	-0.461842	-0.460097	-0.452574
5.0	-0.535755	-0.516807	-0.488274	-0.480435	-0.466390	-0.464773	-0.456238
5.2	-0.538231	-0.520561	-0.491396	-0.483966	-0.470122	-0.468482	-0.459241
5.4	-0.539915	-0.523790	-0.493740	-0.486846	-0.473106	-0.471420	-0.461598
5.5	-0.540599	-0.525117	-0.494653	-0.488021	-0.474346	-0.472580	-0.462591
5.6	-0.541167	-0.526315	-0.495425	-0.489003	-0.475361	-0.473624	-0.463432
5.8	-0.541836	-0.528292	-0.496453	-0.490553	-0.476903	-0.475171	-0.464762
6.0	-0.542185	-0.529974	-0.497102	-0.491721	-0.478107	-0.476239	-0.465963
6.2	-0.542184	-0.531267	-0.497421	-0.492399	-0.478929	-0.476887	-0.466915
6.4	-0.542013	-0.532314	-0.497524	-0.492809	-0.479453	-0.477222	-0.467706
6.6	-0.541670	-0.533082	-0.497433	-0.492964	-0.479746	-0.477314	-0.468404
6.8	-0.541205	-0.533537	-0.497045	-0.492811	-0.479783	-0.477110	-0.468706
7.0	-0.540666	-0.533868	-0.496590	-0.492528	-0.479704	-0.476686	-0.469017
7.2	-0.540083	-0.533987	-0.495974	-0.491994	-0.479390	-0.476084	-0.468951
7.4	-0.539548	-0.533919	-0.495273	-0.491347	-0.478921	-0.475388	-0.468851
7.6	-0.539125	-0.533621	-0.494480	-0.490599	-0.478424	-0.474570	-0.468696
7.8	-0.538805	-0.533125	-0.493648	-0.489774	-0.477889	-0.473696	-0.468407

8.0	-0.538570	-0.532537	-0.492742	-0.488890	-0.477313	-0.472739	-0.468003
8.2	-0.538371	-0.531903	-0.491811	-0.487972	-0.476680	-0.471743	-0.467542
8.4	-0.538192	-0.531289	-0.490885	-0.487047	-0.475995	-0.470725	-0.466990
8.6	-0.538039	-0.530661	-0.489907	-0.486076	-0.475362	-0.469685	-0.466335
8.8	-0.537894	-0.530102	-0.488954	-0.485130	-0.474732	-0.468667	-0.465622
9.0	-0.537731	-0.529601	-0.487925	-0.484154	-0.474068	-0.467608	-0.464802
9.2	-0.537564	-0.529116	-0.486926	-0.483178	-0.473452	-0.466582	-0.463909
9.4	-0.537420	-0.528686	-0.485903	-0.482217	-0.472843	-0.465643	-0.463018
9.6	-0.537290	-0.528307	-0.484879	-0.481290	-0.472279	-0.464811	-0.462066
9.8	-0.537177	-0.527989	-0.483842	-0.480382	-0.471723	-0.464028	-0.461105
10.0	-0.537059	-0.527759	-0.482806	-0.479512	-0.471204	-0.463368	-0.460127
10.2	-0.536909	-0.527485	-0.481725	-0.478653	-0.470675	-0.462809	-0.459174
10.4	-0.536783	-0.527233	-0.480657	-0.477847	-0.470195	-0.462416	-0.458145
10.6	-0.536650	-0.527037	-0.479591	-0.477097	-0.469727	-0.462094	-0.457168
10.8	-0.536522	-0.526899	-0.478648	-0.476510	-0.469278	-0.461875	-0.456615
11.0	-0.536408	-0.526835	-0.477804	-0.475871	-0.468796	-0.461663	-0.456253
11.4	-0.536159	-0.526678	-0.476011	-0.474682	-0.467780	-0.461463	-0.456094
11.8	-0.535931	-0.526609	-0.474356	-0.473934	-0.466994	-0.461407	-0.455946
12.0	-0.535829	-0.526580	-0.473602	-0.473606	-0.466599	-0.461347	-0.456315
12.4	-0.535662	-0.526532	-0.473287	-0.472056	-0.465795	-0.461414	-0.456439
12.8	-0.535512	-0.526518	-0.472896	-0.470950	-0.465048	-0.461270	-0.456857
3.0	-0.535439	-0.526525	-0.472651	-0.470497	-0.464671	-0.461130	-0.456908
13.4	-0.535313	-0.526574	-0.472325	-0.469727	-0.464077	-0.460893	-0.456888
13.8	-0.535200	-0.526748	-0.472019	-0.469315	-0.463661	-0.460632	-0.456786
14.0	-0.535148	-0.526895	-0.471901	-0.469188	-0.463500	-0.460532	-0.456590
14.4	-0.535072	-0.527024	-0.471808	-0.468901	-0.463169	-0.460224	-0.456480
14.8	-0.535000	-0.527035	-0.471610	-0.468588	-0.462920	-0.459997	-0.456467
15.0	-0.534963	-0.527045	-0.471518	-0.468456	-0.462813	-0.459898	-0.456308
15.4	-0.534891	-0.527054	-0.471346	-0.468244	-0.462654	-0.459700	-0.456264

15.8	-0.534837	-0.527069	-0.471192	-0.468078	-0.462523	-0.459502	-0.456235
16.0	-0.534809	-0.527083	-0.471112	-0.468009	-0.462477	-0.459398	-0.456252
16.4	-0.534768	-0.527114	-0.470970	-0.467899	-0.462381	-0.459219	-0.456271
16.8	-0.534728	-0.527128	-0.470818	-0.467800	-0.462334	-0.459047	-0.456331
17.0	-0.534713	-0.527137	-0.470746	-0.467760	-0.462298	-0.458961	-0.456358
17.4	-0.534690	-0.527149	-0.470595	-0.467678	-0.462239	-0.458764	-0.456439
17.8	-0.534667	-0.527162	-0.470462	-0.467619	-0.462200	-0.458645	-0.456512
18.0	-0.534663	-0.527168	-0.470402	-0.467591	-0.462184	-0.458605	-0.456527
18.4	-0.534639	-0.527180	-0.470278	-0.467536	-0.462136	-0.458499	-0.457188
18.8	-0.534620	-0.527191	-0.470171	-0.467499	-0.462092	-0.458428	-0.457655
19.0	-0.534615	-0.527197	-0.470121	-0.467482	-0.462070	-0.458394	-0.457490
19.4	-0.534602	-0.527202	-0.470026	-0.467447	-0.462041	-0.458346	-0.457026
19.8	-0.534595	-0.527208	-0.469955	-0.467415	-0.462001	-0.458263	-0.457061
20.0	-0.534587	-0.527212	-0.469917	-0.467402	-0.461978	-0.458231	-0.457729
22.0	-0.534552	-0.527240	-0.469631	-0.467302	-0.461842	-0.457996	-0.457233
24.0	-0.534552	-0.527229	-0.469520	-0.467213	-0.461771	-0.457826	-0.457473
26.0	-0.534547	-0.527205	-0.469510	-0.467144	-0.461716	-0.457690	-0.457662
28.0	-0.534542	-0.527219	-0.469469	-0.467122	-0.461673	-0.457573	-0.457804
30.0	-0.534578	-0.527226	-0.469431	-0.467113	-0.461648	-0.457763	-0.457920
32.0	-0.534656	-0.527236	-0.469387	-0.467106	-0.461822	-0.457895	-0.458006
34.0	-0.534843	-0.527257	-0.469376	-0.467113	-0.461871	-0.457703	-0.457962
36.0	-0.534842	-0.527274	-0.469376	-0.467122	-0.461880	-0.457679	-0.458053
38.0	-0.534858	-0.527286	-0.469386	-0.467125	-0.461899	-0.457693	-0.458074
40.0	-0.534866	-0.527297	-0.469414	-0.467135	-0.461915	-0.457712	-0.384588
42.0	-0.534883	-0.527299	-0.469406	-0.467131	-0.461930	-0.457762	-0.400964
44.0	-0.534887	-0.527300	-0.469418	-0.467127	-0.461940	-0.457893	-0.414828
46.0	-0.534876	-0.527299	-0.469432	-0.467122	-0.461922	-0.4583	-0.426137
48.0	-0.534868	-0.527298	-0.469461	-0.467116	-0.461917	-0.4583	-0.435246
50.0	-0.534859	-0.527295	-0.469461	-0.467112	-0.461917	-0.458330	-0.442285

Supplement-Table 6: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest seven $^3\Pi$

states of NaLi at different values of the internuclear distance R (bohr).

	$1^3\Pi$	$2^3\Pi$	$3^3\Pi$	$4^1\Pi$	$5^3\Pi$	$6^3\Pi$	$7^3\Pi$
3.4	-0.530622	-0.431603	-0.427224	-0.419294	-0.397005	-0.388426	-0.384897
3.6	-0.542150	-0.447066	-0.437149	-0.435475	-0.413121	-0.404366	-0.401077
3.8	-0.551570	-0.460576	-0.450105	-0.445493	-0.427095	-0.418138	-0.415152
4.0	-0.559151	-0.472181	-0.461335	-0.453492	-0.439047	-0.429905	-0.427079
4.2	-0.565173	-0.482099	-0.470862	-0.460080	-0.449240	-0.440075	-0.437515
4.4	-0.569968	-0.490584	-0.478797	-0.465921	-0.457792	-0.448526	-0.445928
4.6	-0.573540	-0.497652	-0.485207	-0.470960	-0.464761	-0.455560	-0.452701
4.8	-0.576044	-0.503384	-0.490275	-0.475389	-0.470493	-0.461446	-0.458077
5.0	-0.577729	-0.508050	-0.494212	-0.479181	-0.475053	-0.466185	-0.462312
5.2	-0.578590	-0.511843	-0.497240	-0.482774	-0.478802	-0.470042	-0.465554
5.4	-0.578785	-0.514998	-0.499505	-0.484689	-0.482209	-0.473050	-0.468093
5.5	-0.578759	-0.516276	-0.500314	-0.486506	-0.483095	-0.474335	-0.469097
5.6	-0.578604	-0.517413	-0.500983	-0.488400	-0.483749	-0.475468	-0.469963
5.8	-0.577905	-0.519197	-0.501758	-0.491654	-0.484674	-0.477223	-0.471179
6.0	-0.576992	-0.520625	-0.502254	-0.493626	-0.485665	-0.478587	-0.471962
6.2	-0.575781	-0.521653	-0.502305	-0.495268	-0.486330	-0.479511	-0.472334
6.4	-0.574363	-0.522402	-0.502107	-0.496763	-0.486636	-0.480229	-0.472446
6.6	-0.572809	-0.522936	-0.501647	-0.498084	-0.486635	-0.480623	-0.472316
6.8	-0.571077	-0.523177	-0.500846	-0.499199	-0.486256	-0.480815	-0.471927
7.0	-0.569220	-0.523370	-0.500061	-0.499969	-0.485724	-0.480923	-0.471527
7.2	-0.567305	-0.523493	-0.500579	-0.498895	-0.484978	-0.481123	-0.471061
7.4	-0.565344	-0.523551	-0.502511	-0.496301	-0.484128	-0.481381	-0.470622
7.6	-0.563363	-0.523560	-0.502478	-0.495294	-0.483192	-0.481536	-0.470188
7.8	-0.561390	-0.523573	-0.502399	-0.494515	-0.482185	-0.481766	-0.469878

8.0	-0.559413	-0.523573	-0.502186	-0.493262	-0.481419	-0.481924	-0.469689
8.2	-0.557514	-0.523649	-0.501882	-0.491985	-0.482770	-0.479900	-0.469353
8.4	-0.555695	-0.523756	-0.501379	-0.490727	-0.483067	-0.478699	-0.468882
8.6	-0.553940	-0.523874	-0.500854	-0.489506	-0.483093	-0.476758	-0.468292
8.8	-0.552228	-0.524035	-0.500245	-0.488429	-0.482629	-0.476501	-0.467564
9.0	-0.550597	-0.524179	-0.499593	-0.487431	-0.481948	-0.475447	-0.466822
9.2	-0.549032	-0.524345	-0.498921	-0.486634	-0.481075	-0.474356	-0.466048
9.4	-0.547587	-0.524541	-0.498215	-0.486107	-0.480007	-0.473308	-0.465233
9.6	-0.546231	-0.524738	-0.497493	-0.485673	-0.478830	-0.472303	-0.464456
9.8	-0.544997	-0.524940	-0.496755	-0.485332	-0.477691	-0.471346	-0.463662
10.0	-0.543852	-0.525129	-0.496009	-0.484938	-0.476611	-0.470428	-0.462943
10.2	-0.542788	-0.525281	-0.495248	-0.484473	-0.475623	-0.469563	-0.462322
10.4	-0.541821	-0.525435	-0.494511	-0.483920	-0.474660	-0.468758	-0.461746
10.6	-0.540940	-0.525566	-0.493772	-0.483268	-0.473782	-0.468009	-0.461267
10.8	-0.540197	-0.525704	-0.492168	-0.482622	-0.473015	-0.467369	-0.460847
11.0	-0.539510	-0.525813	-0.490602	-0.481956	-0.471700	-0.466790	-0.460499
11.4	-0.538403	-0.525975	-0.489782	-0.480475	-0.470814	-0.465768	-0.459784
11.8	-0.537560	-0.526152	-0.488033	-0.479018	-0.470399	-0.464924	-0.459277
12.0	-0.537176	-0.526190	-0.486414	-0.478204	-0.469729	-0.464497	-0.459036
12.4	-0.536573	-0.526328	-0.485654	-0.476811	-0.469219	-0.463666	-0.458723
12.8	-0.536129	-0.526475	-0.484206	-0.475250	-0.469001	-0.463083	-0.458287
3.0	-0.535975	-0.526512	-0.482726	-0.474617	-0.468662	-0.462961	-0.458352
13.4	-0.535688	-0.526552	-0.482018	-0.473199	-0.468634	-0.462710	-0.458527
13.8	-0.535430	-0.526657	-0.480630	-0.471494	-0.468689	-0.462414	-0.458604
14.0	-0.535301	-0.526804	-0.479318	-0.470692	-0.468478	-0.462273	-0.458659
14.4	-0.535198	-0.526953	-0.478693	-0.469747	-0.467839	-0.462064	-0.458947
14.8	-0.535076	-0.526999	-0.477483	-0.469154	-0.467400	-0.461844	-0.458983
15.0	-0.535031	-0.527005	-0.476391	-0.468948	-0.466555	-0.461736	-0.459028
15.4	-0.534936	-0.527034	-0.475889	-0.468665	-0.465772	-0.461509	-0.459014

15.8	-0.534867	-0.527048	-0.474922	-0.468461	-0.465412	-0.461287	-0.458974
16.0	-0.534843	-0.527052	-0.474064	-0.468373	-0.464754	-0.461161	-0.458970
16.4	-0.534810	-0.527076	-0.473647	-0.468245	-0.464178	-0.460878	-0.458905
16.8	-0.534743	-0.527080	-0.472922	-0.468132	-0.463934	-0.460531	-0.458788
17.0	-0.534730	-0.527089	-0.472285	-0.468074	-0.463515	-0.460370	-0.458711
17.4	-0.534694	-0.527101	-0.472010	-0.467987	-0.463189	-0.460020	-0.458559
17.8	-0.534672	-0.527119	-0.471498	-0.467912	-0.463055	-0.459721	-0.458414
18.0	-0.534667	-0.527138	-0.471069	-0.467882	-0.462877	-0.459613	-0.458332
18.4	-0.534649	-0.527148	-0.470868	-0.467817	-0.462697	-0.459423	-0.458052
18.8	-0.534626	-0.527165	-0.470699	-0.467751	-0.462614	-0.459157	-0.457724
19.0	-0.534614	-0.527171	-0.470422	-0.467717	-0.462429	-0.459063	-0.457530
19.4	-0.534586	-0.527178	-0.470309	-0.467661	-0.462289	-0.458876	-0.457156
19.8	-0.534558	-0.527186	-0.469611	-0.467597	-0.462251	-0.458680	-0.456669
20.0	-0.534552	-0.527188	-0.469532	-0.467565	-0.461933	-0.458610	-0.456451
22.0	-0.534527	-0.527186	-0.469451	-0.467317	-0.461780	-0.458127	-0.453874
24.0	-0.534576	-0.527200	-0.469361	-0.467190	-0.461666	-0.457847	-0.456768
26.0	-0.534546	-0.527174	-0.469309	-0.467090	-0.461646	-0.457729	-0.456781
28.0	-0.534541	-0.527154	-0.469281	-0.467040	-0.461564	-0.457637	-0.456527
30.0	-0.534516	-0.527153	-0.469268	-0.467029	-0.461556	-0.457494	-0.456504
32.0	-0.534506	-0.527176	-0.469266	-0.467031	-0.461549	-0.457362	-0.456654
34.0	-0.534512	-0.527202	-0.469283	-0.467032	-0.461562	-0.457647	-0.456935
36.0	-0.534517	-0.527222	-0.469281	-0.467044	-0.461575	-0.457662	-0.457250
38.0	-0.534527	-0.527235	-0.469317	-0.467045	-0.461604	-0.457677	-0.457710
40.0	-0.534546	-0.527237	-0.469336	-0.467041	-0.461612	-0.457693	-0.457655
42.0	-0.534568	-0.527240	-0.469398	-0.467041	-0.461597	-0.457723	-0.457853
44.0	-0.534552	-0.527242	-0.469397	-0.467039	-0.461590	-0.457691	-0.457975
46.0	-0.534545	-0.527243	-0.469380	-0.467036	-0.461594	-0.457672	-0.458076
48.0	-0.534540	-0.527244	-0.427224	-0.467033	-0.461628	-0.457659	-0.458093
50.0	-0.534541	-0.527245	-0.437149	-0.467032	-0.397005	-0.457648	-0.457992

Supplement-Table 7: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest four $^1\Delta$ and

lowest four $^3\Delta$ states of NaLi at different values of the internuclear distance R (bohr).

R	$1^1\Delta$	$2^1\Delta$	$3^1\Delta$	$4^1\Delta$	$1^3\Delta$	$2^3\Delta$	$3^3\Delta$	$4^3\Delta$
3.4	-0.445071	-0.403577	-0.388568	-0.375527	-0.431610	-0.419562	-0.393596	0.379171
3.6	-0.456222	-0.418498	-0.404018	-0.391969	-0.440814	-0.435011	-0.409667	0.395287
3.8	-0.465630	-0.431064	-0.416855	-0.406384	-0.448140	-0.448068	-0.423521	0.409204
4.0	-0.473654	-0.441718	-0.427396	-0.418836	-0.459432	-0.453700	-0.435349	0.421118
4.2	-0.480101	-0.450460	-0.435868	-0.429159	-0.468937	-0.457018	-0.445153	0.431244
4.4	-0.486117	-0.458121	-0.443269	-0.437089	-0.476797	-0.460587	-0.453487	0.439649
4.6	-0.491217	-0.464454	-0.449620	-0.442832	-0.483240	-0.463368	-0.460334	0.446867
4.8	-0.495413	-0.469681	-0.455011	-0.447264	-0.488400	-0.465867	-0.465519	0.452806
5.0	-0.498724	-0.473787	-0.459389	-0.450659	-0.492445	-0.470260	-0.467262	0.457599
5.2	-0.501352	-0.476997	-0.462882	-0.453573	-0.495547	-0.473700	-0.468606	0.461298
5.4	-0.503207	-0.479553	-0.465525	-0.455566	-0.497943	-0.476468	-0.469166	0.464286
5.5	-0.503901	-0.480487	-0.466664	-0.456418	-0.498844	-0.477517	-0.469341	0.465542
5.6	-0.504368	-0.481232	-0.467505	-0.457213	-0.499562	-0.478377	-0.469621	0.466554
5.8	-0.504907	-0.482089	-0.468964	-0.458420	-0.500506	-0.479585	-0.470063	0.468234
6.0	-0.505229	-0.482807	-0.470057	-0.459045	-0.500927	-0.480296	-0.470363	0.469433
6.2	-0.505207	-0.483145	-0.470812	-0.459212	-0.501020	-0.480632	-0.470298	0.470230
6.4	-0.504888	-0.483162	-0.471220	-0.459258	-0.500802	-0.480675	-0.470735	0.470071
6.6	-0.504307	-0.482914	-0.471381	-0.458974	-0.500312	-0.480363	-0.471003	0.469792
6.8	-0.503485	-0.482324	-0.471332	-0.458831	-0.499498	-0.479751	-0.471139	0.469480
7.0	-0.502590	-0.481839	-0.471275	-0.458765	-0.498570	-0.479023	-0.471033	0.469572
7.2	-0.501439	-0.480921	-0.470851	-0.458286	-0.497450	-0.478077	-0.470695	0.468910
7.4	-0.500145	-0.479868	-0.470324	-0.457550	-0.496270	-0.477051	-0.470245	0.468031
7.6	-0.498830	-0.478767	-0.469740	-0.456853	-0.494981	-0.475920	-0.469620	0.467172
7.8	-0.497393	-0.477557	-0.469081	-0.456201	-0.493655	-0.474743	-0.469105	0.466391

8.0	-0.495960	-0.476325	-0.468415	-0.455647	-0.492275	-0.473489	-0.468554	0.465686
8.2	-0.494507	-0.475048	-0.467739	-0.455139	-0.490849	-0.472186	-0.467995	0.465045
8.4	-0.493033	-0.473735	-0.467063	-0.454639	-0.489445	-0.470900	-0.467532	0.464406
8.6	-0.491509	-0.472595	-0.466395		-0.488033	-0.469612	-0.467001	0.463705
8.8	-0.490091	-0.471326	-0.465817		-0.486639	-0.468372	-0.466460	0.463049
9.0	-0.488630	-0.469996	-0.465253		-0.485345	-0.467203	-0.465855	0.462436
9.2	-0.487196	-0.468701	-0.464695		-0.483896	-0.465832	-0.465536	0.461794
9.4	-0.485850	-0.467470	-0.464279		-0.482608	-0.466660	-0.463829	0.461170
9.6	-0.484575	-0.466319	-0.463868		-0.481391	-0.465239	-0.463100	0.460635
9.8	-0.483310	-0.465230	-0.463434		-0.480244	-0.465716	-0.461327	0.460276
10.0	-0.482086	-0.464336	-0.462829		-0.479103	-0.465404	-0.460196	0.459769
10.2	-0.480808	-0.463710	-0.461782		-0.478032	-0.464736	-0.459342	0.459289
10.4	-0.479603	-0.463234	-0.460836		-0.477085	-0.464449	-0.458886	0.458405
10.6	-0.478720	-0.463079	-0.460238		-0.476272	-0.464178	-0.458534	0.457587
10.8	-0.477760	-0.462908	-0.459366		-0.475498	-0.463964	-0.456866	0.456719
11.0	-0.476860	-0.462781	-0.458478		-0.474881	-0.463702	-0.455430	0.456045
11.4	-0.475400	-0.462649	-0.456866		-0.473675	-0.463251	-0.454802	0.454600
11.8	-0.474140	-0.462373	-0.455430		-0.472923	-0.462883	-0.453779	0.453476
12.0	-0.473600	-0.462231	-0.454802		-0.472511	-0.462643	-0.453001	0.452971
12.4	-0.472698	-0.462193	-0.453779		-0.471877	-0.462147	-0.452709	0.452086
12.8	-0.471989	-0.461895	-0.453001		-0.471234	-0.461585	-0.452157	0.450883
3.0	-0.471701	-0.461741	-0.452709		-0.471045	-0.461399	-0.452977	0.450569
13.4	-0.471126	-0.461453	-0.452157		-0.470738	-0.461038	-0.452851	0.450313
13.8	-0.470793	-0.461231	-0.452221		-0.470487	-0.460718	-0.452326	0.450506
14.0	-0.470661	-0.461126	-0.452377		-0.470382	-0.460594	-0.452072	0.450582
14.4	-0.470417	-0.460922	-0.452747		-0.470232	-0.460387	-0.451991	0.451268
14.8	-0.470244	-0.460751	-0.452965		-0.470114	-0.460190	-0.452019	0.451579
15.0	-0.470169	-0.460651	-0.453083		-0.470062	-0.460105	-0.452484	0.451690
15.4	-0.470023	-0.460509	-0.453356		-0.469986	-0.459985	-0.452658	0.451803

15.8	-0.469920	-0.460402	-0.453555		-0.469918	-0.459887	-0.453149	0.451444
16.0	-0.469873	-0.460348	-0.453666		-0.469870	-0.459837	-0.453160	0.451305
16.4	-0.469819	-0.460262	-0.454072		-0.469794	-0.459740	-0.453319	0.450875
16.8	-0.469768	-0.460164	-0.454193		-0.469730	-0.459651	-0.453623	0.450846
17.0	-0.469742	-0.460123	-0.454363		-0.469709	-0.459621	-0.453845	0.450660
17.4	-0.469679	-0.460047	-0.454620		-0.469638	-0.459524	-0.453982	0.450386
17.8	-0.469637	-0.459971	-0.454880		-0.469601	-0.459460	-0.454246	0.450291
18.0	-0.469659	-0.459948	-0.455015		-0.469575	-0.459438	-0.454439	0.450146
18.4	-0.469617	-0.459885	-0.455225		-0.469544	-0.459396	-0.454550	0.449973
18.8	-0.469593	-0.459845	-0.455473		-0.469549	-0.459357	-0.454770	0.449928
19.0	-0.469588	-0.459834	-0.455574		-0.469525	-0.459342	-0.454962	0.449832
19.4	-0.469594	-0.459799	-0.455772		-0.469510	-0.459328	-0.455072	0.449707
19.8	-0.469573	-0.459789	-0.455930		-0.469505	-0.459299	-0.455633	0.449569
20.0	-0.469570	-0.459780	-0.455995		-0.469505	-0.459301	-0.455690	0.449556
22.0	-0.469498	-0.459706	-0.456514		-0.469409	-0.459245	-0.455807	0.449169
24.0	-0.469409	-0.459640	-0.456582		-0.469327	-0.459179	-0.456030	0.448951
26.0	-0.469362	-0.459602	-0.456475		-0.469286	-0.459521	-0.456465	0.448849
28.0	-0.469347	-0.459588	-0.456601		-0.469276	-0.459540	-0.456926	0.448689
30.0	-0.469339	-0.459589	-0.456925		-0.469267	-0.459559	-0.457514	0.448370
32.0	-0.469337	-0.459618	-0.457410		-0.469264	-0.459571	-0.457724	0.447958
34.0	-0.469337	-0.459623	-0.457952		-0.469273	-0.459606	-0.457856	0.447632
36.0	-0.469345	-0.459635	-0.457661		-0.469274	-0.459624	-0.457917	0.447662
38.0	-0.469341	-0.459641	-0.457909		-0.469264	-0.459630	-0.457928	0.447697
40.0	-0.469331	-0.459641	-0.458050		-0.469254	-0.459618	-0.457871	0.447672
42.0	-0.469326	-0.459634	-0.458138		-0.469250	-0.459611	-0.457860	0.447600
44.0	-0.469319	-0.459623	-0.458073		-0.469250	-0.459602	-0.457870	0.448951
46.0	-0.469316	-0.459615	-0.458013		-0.469246	-0.459599	-0.457826	0.448849
48.0	-0.469315	-0.459613	-0.458010		-0.469244	-0.459594	-0.393596	
50.0	-0.469313	-0.459613	-0.458003		-0.469243	-0.459595	-0.409667	

Supplementary Table 8. Comparison of the vibrational levels E_v (cm^{-1}) for B$^1\Pi$ (J=1), C$^1\Sigma^+$(J=0) and D$^1\Pi$(J=1) of Na^{7}Li, with respect to the electronic minimum energy in each case calculated in the present work with previous theoretical and experimental data.

v	Present work B$^1\Pi$	Expt.[a] B$^1\Pi$	Theor.[b] B$^1\Pi$	Present work C$^1\Sigma^+$	Expt.[a] C$^1\Sigma^+$	Theor. C$^1\Sigma^+$	present work D$^1\Pi$	Expt.[c] D$^1\Pi$	Theor.[b] D$^1\Pi$
0	85	93.8	90	53	52.2	53	81		75
1	252	271.1	265	157	157.2	159	237		224
2	415	436.7	431	264	263.3	266	389		370
3	569	590.7	586	372	370.3	373	537		511
4	708	732.9	728	478	487.2	481	678	680	648
5	823	863.5	855	585	586.5	590	813	814	781
6	913	982.4	964	692	695.3	698	941	939	908
7	990		1059	798	804.3	807	1061	1062	1029
8	1061		1141	903	913.3	916	1174	1178	1145
9	1124		1215	1007	1022.3	1025	1279	1286	1253
10	1182		1283	1113	1131.3	1134	1375	1391	1354
11	1238		1346	1218	1240.2	1243	1460	1484	1447
12	1291		1404	1322	1348.9	1351	1538	1570	1531
13	1341		1459	1426	1457.3	1459	1595	1646	1604
14	1388		1511	1529		1567	1602		1666
15	1433		1558	1632		1674	1640		1714
16	1473		1603	1735		1781	1662		1737
17	1510		1644	1836		1888			
18	1543		1681	1936		1993			
19	1573		1715	2035		2098			
20	1599		1746	2134		2202			
21	1622		1773	2232		2306			
22	1642		1796	2331		2408			

23	1658		1916	2427		2510		
24	1671		1832	2522		2630		
25				2625				
26				2727				
27				2816				

[a]Ref. [13] [b]Ref. [6] [c]Ref. [11]