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Anexo 1

Tabela 7-1 Limites *Hatree-Fock* para os átomos de números atômicos de 3 a 44.

Z	Átomo	Multiplicidade	Energia em hartrees	Z	Átomo	Multiplicidade	Energia em hartrees
3	**Li**	2	-7.432726927	**24**	**Cr**	7	-1043.356376000
4	**Be**	1	-14.573023160	**25**	**Mn**	6	-1149.866251000
5	**B**	2	-24.529060720	**26**	**Fe**	5	-1262.443665000
6	**C**	3	-37.688618950	**27**	**Co**	4	-1381.414553000
7	**N**	4	-54.400934190	**28**	**Ni**	3	-1506.870908000
8	**O**	3	-74.809398450	**29**	**Cu**	2	-1638.963742000
9	**F**	2	-99.409349330	**30**	**Zn**	1	-1777.848116000
10	**Ne**	1	-128.547098000	**31**	**Ga**	2	-1923.261009000
11	**Na**	2	-161.858911600	**32**	**Ge**	3	-2075.359733000
12	**Mg**	1	-199.614636300	**33**	**As**	4	-2234.238654000
13	**Al**	2	-241.876707200	**34**	**Se**	3	-2399.867611000
14	**Si**	3	-288.854362400	**35**	**Br**	2	-2572.441332000
15	**P**	4	-340.718780800	**36**	**Kr**	1	-2752.054977000
16	**S**	3	-397.504895800	**37**	**Rb**	2	-2938.357453000
17	**Cl**	2	-459.482072100	**38**	**Sr**	1	-3131.545686000
18	**Ar**	1	-526.817512600	**39**	**Y**	2	-3331.684169000
19	**K**	2	-599.164786500	**40**	**Zr**	3	-3538.995064000
20	**Ca**	1	-676.758185700	**41**	**Nb**	6	-3753.597727000
21	**Sc**	2	-759.735717800	**42**	**Mo**	7	-3975.549499000
22	**Ti**	3	-848.405996700	**43**	**Tc**	6	-4204.788736000
23	**V**	4	-942.884337400	**44**	**Ru**	5	-4441.539487000

Anexo 2

Otimização da base 25s15p limite Hartree-Fock . Estudo de caso 5.1.2

Tabela 7-2 Cromossomos resultados da otimização da base 25s15p Ne com o modelo polinomial de ordem cinco .

s						p						Energia
C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	
5.53625	7.92504	2.24903	2.59729	0.17844	-0.55313	2.37011	-4.74632	0.74094	-0.72752	0.22621	-0.15165	-128.547098
6.28380	7.86385	-2.92120	-2.72459	4.76873	4.62085	2.77859	-4.88393	-0.60526	-0.09486	2.76562	-2.08892	-128.547097
3.20330	-7.86435	4.26312	2.16102	-2.35350	-4.73433	1.69154	5.12871	0.61018	1.00673	0.71820	-1.04196	-128.547096
3.93767	7.86617	0.94695	1.47573	2.31931	-0.37468	1.54053	4.32284	-0.88345	3.56836	2.79120	-3.59361	-128.547095
2.93419	-7.46716	4.94093	2.00413	-3.22969	-5.10223	1.81496	-3.09424	0.68666	-5.75698	0.25500	4.15303	-128.547090

Anexo 3
Melhores Cromossomos para todos os experimentos do estudo de caso 5.1.3

Tabela 7-3 Cromossomos resultados para aplicação do modelo neuro-evolutivo para construir a função de base 20s11p do Ne.

W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Ener. corr
-0.35623	-0.52359	0.634728	-1.3346	0.22978	-0.56363	-0.22068	1.669251	-0.58026	-1.62393	-0.97643	-0.32746	1.065481	0.623107	4.2708E-05
-0.65108	0.055227	0.194901	-0.48743	-0.23412	-1.28174	-1.04675	-0.80535	-0.28924	-1.07298	0.309512	0.333902	0.97231	-0.53385	6.3216E-05
1.077803	-0.53854	-0.51592	0.408336	0.161086	-0.86209	-1.79732	-0.65477	0.534022	1.658092	0.729496	0.270772	0.560965	0.134669	0.00014177
0.495372	-1.40523	0.14036	-0.24003	0.547056	-0.10412	-1.44603	1.274619	-0.66553	-0.29386	0.15222	-0.35615	0.231799	-1.02606	0.00018626
-1.25175	-1.89986	1.54571	-1.38744	-0.60612	-0.41709	0.841079	-1.39879	0.381988	-0.48066	0.09951	1.94649	1.499012	1.208232	0.0025696

Anexo 4
Melhores cromossomos para todos os experimentos do estudo de caso 5.1.6

Tabela 7-4 Melhores cromossomos resultados dentre de cinco otimizações empregando o modelo co-evolutivo com polinômios de ordem 4.

B			**s**					**p**			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	2.378983	4.657434	0.608815	0.861974	0.204723	-1.10848	-4.54243	0.308996	5.991345	1.161314	0.70097
18	2.632367	5.177289	0.613764	1.020651	0.409449	-0.13964	-2.67928	0.263253	-0.23883	0.067656	0.64696
22	2.941306	5.587674	0.78685	1.266798	0.472994	0.144234	3.244502	0.373891	0.373176	0.116833	0.654121
26	3.292969	-6.13713	0.738325	-1.61034	0.820372	0.275573	-3.44594	0.446193	-0.45325	0.109895	0.637956
30	3.456346	-6.76684	1.45772	-1.215	0.178625	-0.22883	4.260207	0.342475	0.065694	0.779243	0.593612
C			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	2.635158	-4.34976	0.390719	-0.77257	0.257521	-0.95116	2.800004	-1.08739	-2.04062	4.227666	0.634235
18	2.844779	4.905719	0.660591	0.944749	0.278364	-1.46485	-3.53906	1.511054	4.279577	2.765966	0.594694
22	3.313461	-5.62054	0.854589	-1.23072	0.40737	0.583745	3.240955	0.370559	0.386293	0.09769	0.630437
26	3.454963	-5.75738	0.748594	-1.39057	0.577929	-0.67827	4.585069	0.560922	-2.1744	2.396457	0.570683
30	3.853859	-6.501	1.240362	-1.48652	0.402494	0.777014	-4.15574	0.59399	-0.67111	0.192732	0.595104
N	s					p					
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	3.05387	4.622596	0.659457	0.858582	0.139614	-0.02063	-1.93276	4.260649	-0.13322	-3.70561	0.744036
18	3.162079	4.83899	0.62003	0.97385	0.289214	0.789138	-2.91613	0.280663	-0.32808	0.075436	0.611149
22	3.630193	-5.65838	0.940986	-1.20469	0.319187	0.961613	-3.22422	0.349289	-0.41306	0.104838	0.620586
26	3.832818	6.093136	1.108746	1.352656	0.390724	1.171051	-3.6598	0.485808	-0.56302	0.134063	0.613138
30	4.292386	-6.63514	1.224207	-1.69509	0.556346	1.284539	-3.91287	0.548073	-0.62979	0.158606	0.628313
s						p					

	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	3.032552	3.988682	0.368674	0.678417	0.161876	-1.13548	3.672362	4.575284	-2.33567	-1.23482	0.591753
18	3.375661	5.228142	0.509243	0.921857	0.630344	0.763727	3.102529	0.51086	0.438015	-0.15718	0.59084
22	2.791525	6.339652	1.125745	0.367538	0.052954	0.637414	3.596772	0.184992	0.736949	1.649503	0.605611
26	3.436083	6.504851	-0.8728	2.989325	2.725513	0.304133	3.983907	-0.91573	2.768793	0.890618	0.604478
30	2.551053	7.341229	-0.29932	3.009879	2.211945	1.532279	-6.97741	3.230738	3.092004	-4.10199	0.597757
F			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	3.281567	-4.00754	0.346891	-0.69452	0.202376	1.19532	2.677376	0.180398	0.289581	0.055877	0.568912
18	3.724431	-4.89013	0.688574	-0.99568	0.268667	1.318915	-2.97217	0.199701	-0.3589	0.104932	0.625053
22	3.826181	5.867833	0.772995	1.391974	0.126623	1.27281	3.581385	-0.23857	0.441484	1.17296	0.599221
26	3.547494	-6.04542	2.48798	-1.93462	-0.73212	-0.05859	4.285016	-0.59593	-0.07784	2.361828	0.522261
30	4.00226	-6.13849	0.103372	-3.17312	0.903232	1.385641	-6.21708	-1.10616	-0.48076	4.013019	0.541419
Ne			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
14	3.684122	-4.36237	0.564964	-0.74868	0.127347	1.314204	-2.32091	0.035731	-0.23056	0.100111	0.658347
18	3.924106	4.876775	0.703468	0.989217	0.251188	1.530144	-2.96331	0.166531	-0.3746	0.132942	0.612607
22	4.247912	-5.37095	0.797718	-1.16954	0.334766	1.765937	3.455082	0.29957	0.53289	0.150678	0.597931
26	4.601321	6.164081	1.232265	1.304285	0.246443	1.863827	-3.68019	0.366048	-0.60948	0.169608	0.631646
30	4.879484	-6.46123	1.262412	-1.61881	0.424562	2.064637	4.069727	0.488601	0.756577	0.2031	0.600929
			s					p			
Na	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.035315	-5.71315	0.180954	-1.35254	0.470914	1.891067	-2.88608	0.251577	-0.38241	0.102415	0.644712
24	3.374435	6.059062	0.324947	1.634997	0.533009	2.065686	-3.37038	0.392226	-0.54104	0.118128	0.614762
28	3.561326	6.772799	0.457835	1.761925	0.809036	2.189745	-3.65979	0.483651	-0.5857	0.090125	0.644366
32	3.803621	-7.1752	0.619298	-1.85037	0.805465	2.399592	-4.14689	0.818196	-0.6613	-0.09677	0.627973
36	3.987745	7.490287	0.630285	2.283872	1.146832	2.233346	4.351475	0.45031	0.719039	0.335077	0.627004

Mg			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.249633	-5.70507	0.239631	-1.32561	0.511626	2.169427	2.851329	0.265868	0.359936	0.094671	0.642253
24	3.564558	-6.12906	0.466572	-1.52903	0.493998	2.410423	3.418598	0.475143	0.49566	0.036188	0.625129
28	3.778407	6.742985	0.630852	1.700526	0.671388	2.435893	3.576289	0.644488	0.603625	-0.03555	0.627705
32	4.015976	-7.08728	0.752467	-1.89303	0.774697	2.380017	-4.14081	0.460834	-0.65382	0.293039	0.629661
36	4.157076	-7.49058	0.918059	-1.94419	0.782591	2.47345	-4.47347	0.547587	-0.89276	0.322905	0.617778
Mg			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.3272	-5.09753	0.373774	-1.12876	0.182893	1.366584	3.775609	-0.33648	0.628841	0.462194	0.558345
24	3.652556	5.846002	0.408096	1.389377	0.506933	1.4719	-3.90132	-0.02313	-0.78632	0.24635	0.585445
28	3.804986	6.271948	0.722797	1.516022	0.451508	1.554719	4.367779	0.060055	0.864395	0.340965	0.578225
32	4.221002	-6.83755	0.710463	-1.78367	0.796745	1.665033	4.541591	0.188208	0.873549	0.349894	0.585215
36	4.093218	-7.22586	0.058322	-1.38383	1.390843	1.315978	5.064143	0.321878	1.320908	-0.22604	0.556716
Si			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.53565	5.330825	0.340322	1.149871	0.415458	1.440129	-3.46096	-0.07847	-0.53175	0.214071	0.588736
24	3.831874	-5.83478	0.509843	-1.34215	0.455659	1.584385	3.897015	0.096519	0.677936	0.204055	0.578122
28	4.02667	-6.24023	0.826909	-1.48255	0.376533	1.785387	4.346358	0.167678	0.809499	0.292635	0.576185
32	4.408148	-6.85963	1.000047	-1.76195	0.547152	1.919078	-4.46442	0.197582	-0.9228	0.297964	0.58169
36	4.369029	-7.36383	1.164734	-1.70091	0.621928	1.96053	-4.81014	0.227832	-1.03249	0.450198	0.579421
S			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.863009	-5.33777	0.429257	-1.12834	0.436226	1.755423	-3.41469	-0.01466	-0.53394	0.19592	0.582718
24	4.193473	-5.72143	0.543703	-1.38534	0.46168	1.8963	-3.90496	0.118956	-0.66826	0.218855	0.580344
28	4.024194	-5.97948	0.119701	-1.46654	0.835254	1.449209	-4.12845	0.384885	-1.07761	0.238267	0.55889
32	4.087391	7.223325	2.011069	1.959002	0.290979	2.449384	4.817203	0.697443	1.411132	0.134417	0.539073

36	3.013076	5.682142	-0.15687	3.601945	1.078692	0.903263	6.333076	-0.73927	0.495135	2.036702	0.591212
			s					p			
Cl	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.964921	5.315496	0.570752	1.052396	0.280668	1.897374	3.388021	0.038981	0.536923	0.159513	0.608942
24	4.316759	5.769782	0.706572	1.301281	0.336447	2.022765	-3.83337	0.153674	-0.69731	0.207445	0.603082
28	4.445848	6.412288	0.811181	1.384873	0.606631	2.192841	4.134408	0.4222	1.009279	0.175604	0.56467
32	3.717229	-7.07467	1.013018	-1.927	1.841562	1.736926	-4.67296	-0.46556	-0.58553	1.045968	0.58681
36	3.004238	-6.19493	1.35062	-1.19251	1.032933	3.075816	4.401322	-1.39185	2.126827	1.787586	0.536811
Ar			s					p			
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	4.184941	5.380438	0.681511	1.024165	0.191343	2.043663	-3.38203	0.016527	-0.52598	0.170415	0.602098
24	4.456623	5.762444	0.775514	1.293796	0.289223	2.160901	-3.82005	0.16796	-0.69547	0.200934	0.567021
28	4.636129	6.151641	1.053325	1.456757	0.245899	2.375169	4.193896	0.217695	0.848756	0.26342	0.584756
32	4.865328	6.666891	1.090265	1.577772	0.455507	2.546141	-4.6098	0.412871	-0.97746	0.258554	0.559279
36	5.108492	-6.95339	1.248468	-1.71717	0.401389	2.640764	-4.86542	0.520301	-1.12033	0.296063	0.557788
			s					p			
K	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
20	3.314319	5.4957	0.164083	1.495174	0.108674	2.231415	3.341761	0.083186	0.489161	0.169969	0.578103
24	3.752933	5.964039	0.785431	1.848162	-0.21276	2.433153	-3.65738	0.164312	-0.56567	0.171119	0.604768
28	3.867005	6.638908	0.618857	1.86826	0.326371	2.488792	3.997108	0.252771	0.719529	0.228914	0.592888
32	3.928536	7.048506	0.690004	1.93377	0.51789	2.679219	4.429885	0.489767	0.871597	0.171338	0.59563
36	4.074096	7.499955	0.67593	2.111075	0.829995	2.737612	-4.58589	0.591906	-0.93118	0.138596	0.615179

Anexo 5
Melhores cromossomos de todos experimentos realizados para o estudo de caso 5.1.7

Tabela 7-5 Cromossomos resultados da otimização empregando o modelo co-evolutivo multiobjetivo de ordem 4.

s					p					Ps	Pp	Energ. de corr.
C1	C2	C3	C4	C5	C1	C2	C3	C4	C5			
1.996648	4.649675	4.889408	1.841988	0.010147	-1.361874	-0.009618	4.608651	-1.535974	1.902914	0.533067	0.485338	0.312716
3.762929	-5.930417	1.756083	-0.887875	0.000132	-0.324288	0.676878	-4.127775	-0.070996	0.432430	1.602297	0.403454	0.306475
4.104159	5.297720	0.910053	0.907806	0.000523	0.107814	1.863491	-3.692621	0.477028	-0.613308	0.090840	0.371037	0.306681
4.451831	-5.920151	1.469927	-1.321658	0.000200	0.114173	1.716282	3.492842	0.285686	0.509248	0.181388	0.435523	0.274203

Ps, Pp percentual de um máximo de termos.
Para esse experimento o máximo foi de termos é 30.

Anexo 6
Experimentos do estudo de caso 5.1.6

Tabela 7-6 Diferenças de energia de correlação eletrônica em *microhartrees* obtidas pelo AEIQ co-evolutivo com polinômios de ordem cinco e as de (KLUBOKOWKI, 1994) para os átomos: B, P, C, Ne, N, O, F, Ne, Na, Mg.

		B					F		
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
14	2069.530	2080.0	10.470	0.5%	14	15160.04	21382.	6221.95	29.1%
18	239.399	200.00	-39.399	-19.7%	18	1151.628	1490.0	338.372	22.7%
22	11.092	13.000	1.908	14.7%	22	0.161	148.00	147.839	99.9%
24	1.180	2.000	0.820	41.0%	24	0.111	20.000	19.889	99.4%
26	2069.530	2080.0	10.470	0.5%	26	0.083	3.000	2.917	97.2%
		C					Ne		
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
14	5785.618	5401.0	-384.618	-7.1%	14	25131.25	55145.	30013.7	54.4%
18	803.330	428.00	-375.330	-87.7%	18	5443.900	3725.0	-	-46.1%
22	12.001	8.000	-4.001	-50.0%	22	441.252	341.00	-100.252	-29.4%
24	3.311	2.000	-1.311	-65.6%	24	57.135	42.000	-15.135	-36.0%
26	5785.618	5401.0	-384.618	-7.1%	26	15.159	7.000	-8.159	-
		N					Na		
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
14	11053.364	11242.	188.636	1.7%	20	4646.599	16188.	11541.4	71.3%
18	-	-	-	-	24	969.989	2163.0	1193.01	55.2%
22	89.409	88.000	-1.409	-1.6%	28	108.896	340.00	231.104	68.0%
24	15.274	13.000	-2.274	-17.5%	32	17.733	57.000	39.267	68.9%
26	2.499	2.000	-0.499	-25.0%	36	4.260	12.000	7.740	64.5%
		O					Mg		
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
14	18397.569	35806.	17408.4	48.6%	20	-	-	-	-
18	151.336	2448.0	2296.66	93.8%	24	1024.854	2163.0	1138.14	52.6%
22	0.248	231.00	230.752	99.9%	28	131.343	340.00	208.657	61.4%
24	0.136	30.000	29.864	99.5%	32	21.591	57.000	35.409	62.1%
26	0.272	5.000	4.728	94.6%	36	11.021	12.000	0.979	8.2%

a: valores de energia apresentados pelo AEIQ co-evolutivo;

b: valores de energia apresentados em (KLUBOKOWKI, 1994);

ΔE_{ab}: diferença entre os valores a e b;

λ_{ab}: diferença percentual entre os valores a e b.

Em vermelho estão resultados que são apresentaram uma diferença percentual negativa.

Tabela 7-7 Diferenças de energia de correlação eletrônica em *microhartrees* obtidas pelo AEIQ co-evolutivo com polinômios de ordem cinco e as de (KLUBOKOWKI, 1994) para os átomos: Al, Si, P, S, Cl, O, Ar.

Al					Cl				
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
20	10520.738	16188.000	5667.262	35.0%	20	18427.488	39404.000	20976.512	53.2%
24	1589.201	2163.000	573.799	26.5%	24	2359.441	4329.000	1969.559	45.5%
28	318.185	340.000	21.815	6.4%	28	0.017	584.000	583.983	100.0%
32	21.941	57.000	35.059	61.5%	32	0.043	93.000	92.957	100.0%
36	0.003	12.000	11.997	100.0%	36	0.019	18.000	17.981	99.9%
Si					Ar				
N_t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
20	12275.413	22019.000	9743.587	44.3%	20	21371.602	45972.000	24600.398	53.5%
24	1769.693	2545.000	775.307	30.5%	24	2991.478	5035.000	2043.522	40.6%
28	292.651	380.000	87.349	23.0%	28	532.487	666.000	133.513	20.0%
32	9.538	62.000	52.462	84.6%	32	102.042	105.000	2.958	2.8%
6	0.000	12.000	12.000	100.0%	36	17.482	20.000	2.518	12.6%
P					K				
t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
0	13982.079	27116.000	13133.921	48.4%	20		-	-	-
4	2064.188	2968.000	903.812	30.5%	24		-	-	-
8	380.364	426.000	45.636	10.7%	28		-	-	-
2	69.098	69.000	-0.098	-0.1%	32		-	-	-
6	12.680	14.000	1.320	9.4%	36		-	-	-
S					Ca				
t	a	b	ΔE_{ab}	λ_{ab}	N_t	a	b	ΔE_{ab}	λ_{ab}
0	15690.430	33204.000	17513.570	52.7%	20		-	-	-
4	1511.179	3645.000	2133.821	58.5%	24		-	-	-
8	0.009	505.000	504.991	100.0%	28		-	-	-
32	0.018	81.000	80.982	100.0%	32		-	-	-
36	0.006	16.000	15.994	100.0%	36		-	-	-

a: valores de energia apresentados pelo AEIQ co-evolutivo;

b: valores de energia apresentados em (KLUBOKOWKI,1994);

ΔE_{ab}: diferença entre os valores a e b;

λ_{ab}: diferença percentual entre os valores a e b.

Anexo 7

Hermite de ordem 4									
Fitness	-128.547	0.000193							
4.021712	0.379691	-3.7588	0.903608	-3.11321	1.115148	-4.64349	-3.60918	-0.04648	-0.83551
Fitness	-128.547								
4.566	1.013932	-1.65073	-2.67275	-0.32471	0.39077	0.095359	-3.86463	-1.59926	-0.58354
Fitness	-128.545								
4.193959	0.852904	4.806136	0.601673	3.480928	2.882252	-1.78618	2.868005	0.955715	0.417915
Fitness	-128.545								
2.127756	4.907742	-7.05272	-1.23446	-1.64895	4.447735	-0.76135	0.031127	-2.08022	-1.68481
Fitness	-128.543								
3.204203	-0.79156	-2.06803	2.549347	-0.89186	5.292868	-4.05671	4.001498	-1.27178	-0.80199
Laguerre de orde 4									
Fitness	-128.547	4.63E-05							
-1.4806	7.508863	3.392399	-3.78082	3.221523	6.541521	-4.23851	-0.87914	-3.81594	-0.98539
Fitness	-128.547								
-1.48152	7.508747	7.313978	-0.03108	7.104002	-1.93554	4.239095	0.948907	-1.66793	2.593544
Fitness	-128.547	4.63E-05							
-1.48123	7.509208	2.277413	-2.82199	-0.05405	-1.9352	4.23898	2.007623	-2.49748	3.922767
Fitness	-128.547								
-1.48141	7.508687	4.608955	-1.34595	1.303	-1.93512	4.238377	3.493634	-0.39606	0.267425
Fitness	-128.547								
-1.47982	7.511094	-6.29481	4.588866	-3.84989	6.543779	-4.23947	2.965023	-3.67077	1.01349

Laguerre de ordem 5											
Fitness	-128.547	4.63E-05									
-1.48138	7.509191	0.858664	3.539656	0.762045	-0.33641	-1.93531	4.239143	-3.63993	2.403178	-2.79735	-0.63607
Fitness	-128.547	4.63E-05									
-1.48041	7.508204	-7.58642	-0.7026	5.819536	-6.61222	6.542225	-4.23875	-7.42606	-4.06825	-0.59881	0.537048
Fitness	-128.547	4.63E-05									
-1.48084	7.508841	1.447245	7.79461	0.377679	0.876152	6.542064	-4.23862	-1.51462	2.259845	3.517621	2.552663
Fitness	-128.547	4.63E-05									
-1.48082	7.507766	2.043223	-7.85291	4.525927	2.213368	-1.9354	4.238632	-0.04878	-3.62509	-5.31868	-0.59471
Fitness	-128.547	4.63E-05									
-1.48075	7.509502	-0.08629	2.843379	0.487024	5.107707	6.542201	-4.23861	1.536234	-1.61481	-3.09249	2.133397
Legendre de ordem 5											
Fitness	-128.547	4.63E-05									
6.026459	-7.50821	-7.74782	3.312544	-0.60948	-5.8333	2.303197	4.238663	2.261695	-1.06445	-4.10504	-2.64411
Fitness	-128.547	4.63E-05									
6.027577	-7.50932	6.837096	5.110013	6.560402	1.286596	2.303565	4.238735	-5.75003	7.252327	0.747076	-4.53018
Fitness	-128.547	4.63E-05									
6.027063	7.508405	4.460557	6.921001	-2.68329	-0.64822	2.303814	4.2386	-1.11829	1.682634	0.796109	6.065107
Fitness	-128.547	4.63E-05									
6.02828	7.508834	-0.59461	-3.80757	0.300554	-3.20953	2.30334	4.238677	-0.18435	3.728134	-5.21276	-0.29151
Fitness	-128.547	4.63E-05									
6.02649	7.507964	2.60144	-4.50097	3.444981	-7.52505	2.303718	-4.23893	0.990869	-3.86131	2.879016	0.116081