n	r/L	r/L as a fraction	s	ΔPE	$(\frac{s}{r})_{Optimum}$
1	0.143080750251166	$\frac{64}{447}$	0.14151549	-3329.190	0.9890603609820259
2	0.0792985982485324	$\frac{5}{63}$	0.06900467	-924.489	0.8701877968715425
3	0.0548180139054166	$\frac{4}{73}$	0.0465095	-425.736	0.8484357194166394
4	0.0418743629670565	$\frac{6}{143}$	0.0351802	-243.734	0.8401371870650379
5	0.0338717159010935	$\frac{2}{59}$	0.02831358	-157.637	0.8359063779218948
6	0.0284352	$\frac{4}{141}$	0.02369861	-110.236	0.8334254087123768
7	0.0245018	$\frac{3}{122}$	0.02038046	-81.393	0.8317944615686007
8	0.0215241	$\frac{2}{93}$	0.0178787	-62.548	0.8306366661865847
9	0.0191915	$\frac{1}{52}$	0.0159248	-49.563	0.8297883100821288
10	0.0173149	$\frac{1}{58}$	0.01435653	-40.238	0.8291435031161173

Note: for all the calculations L =1, and assuming a=s to get the maximum