1 Density of Structure plots at 100K for CaO, SrO, BaO

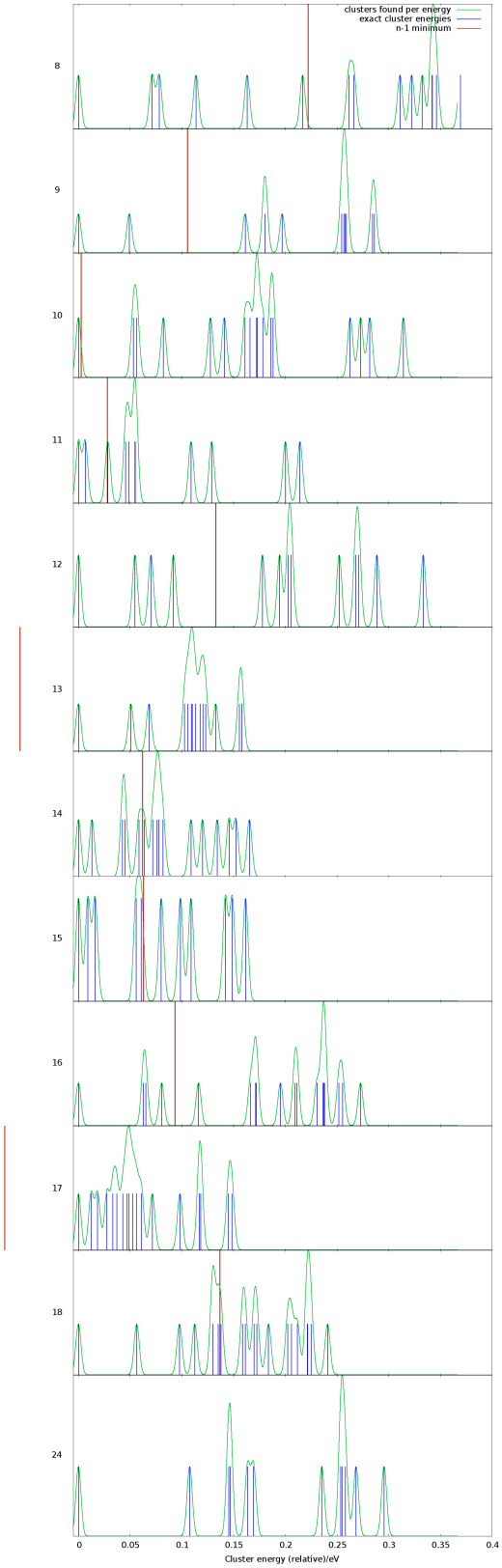

Figure S1: Density of structures for CaO at T = 100K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

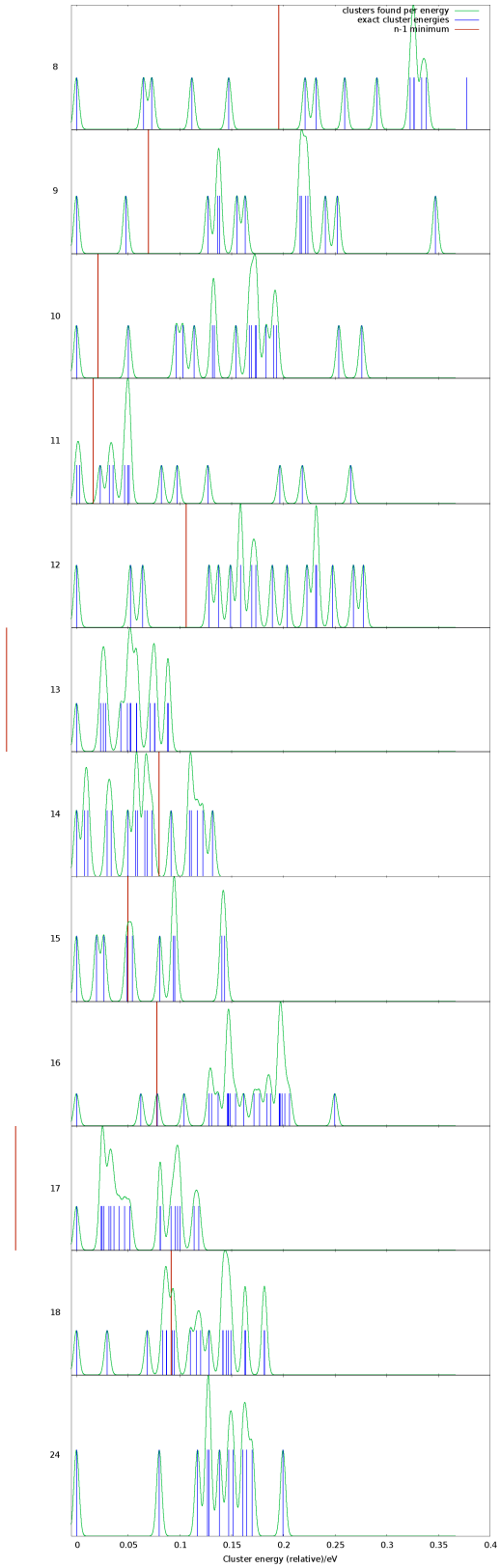

Figure S2: Density of structures for SrO at T = 100K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

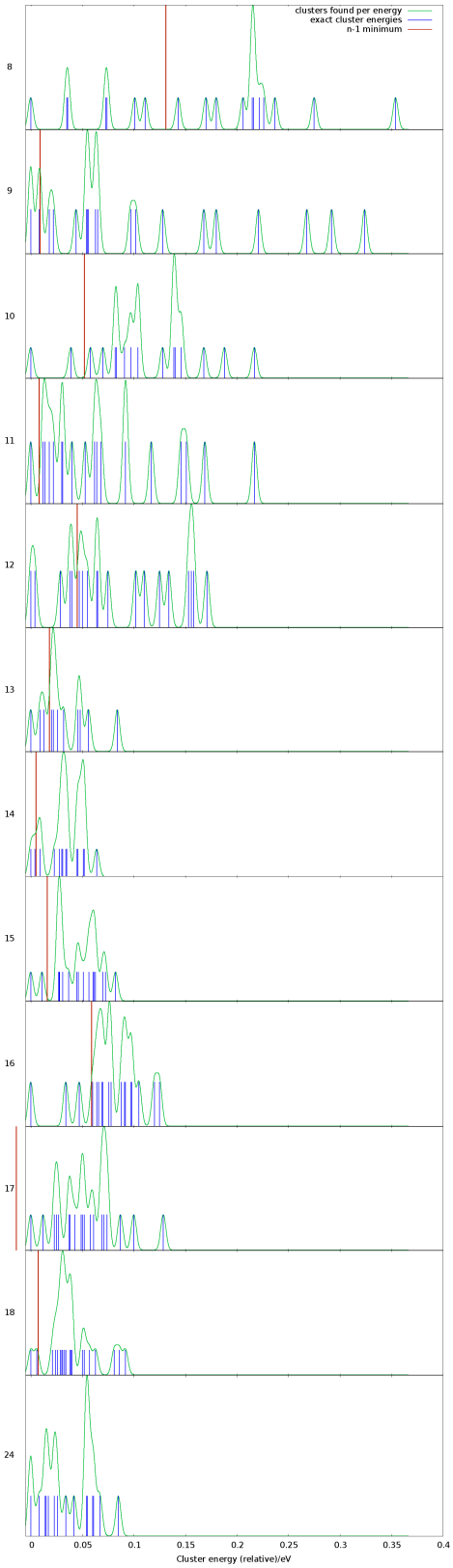

Figure S3: Density of structures for BaO at T = 100K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

2 Density of Structures at 300K for MgO, CaO, SrO, BaO

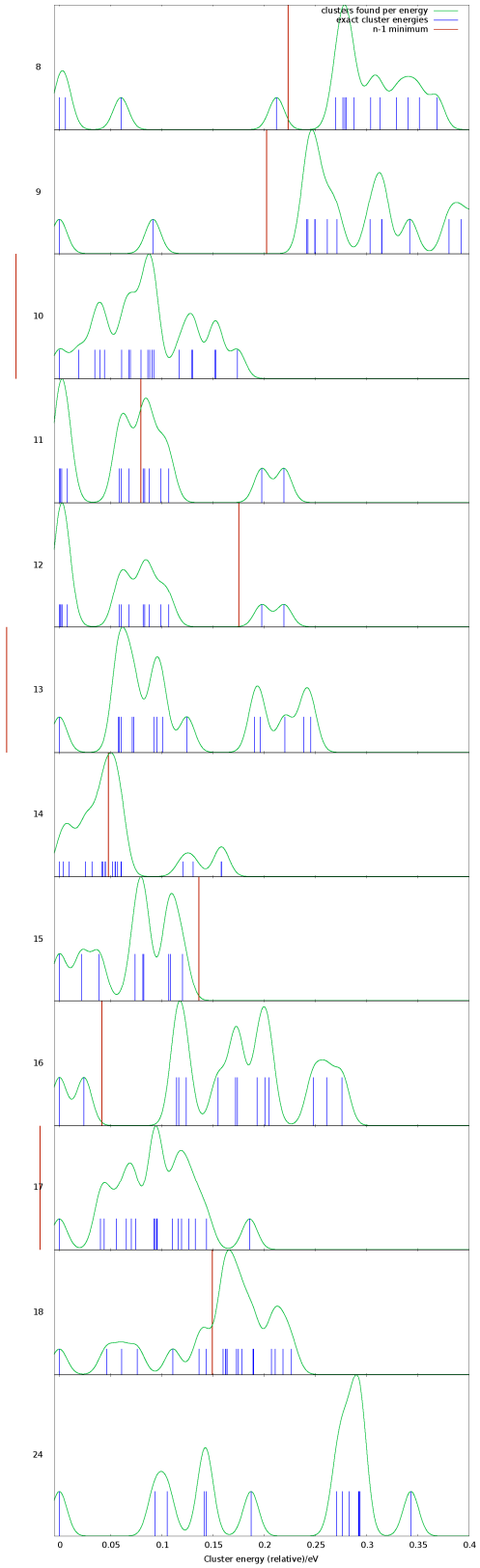

Figure S4: Density of structures for MgO at T = 300K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

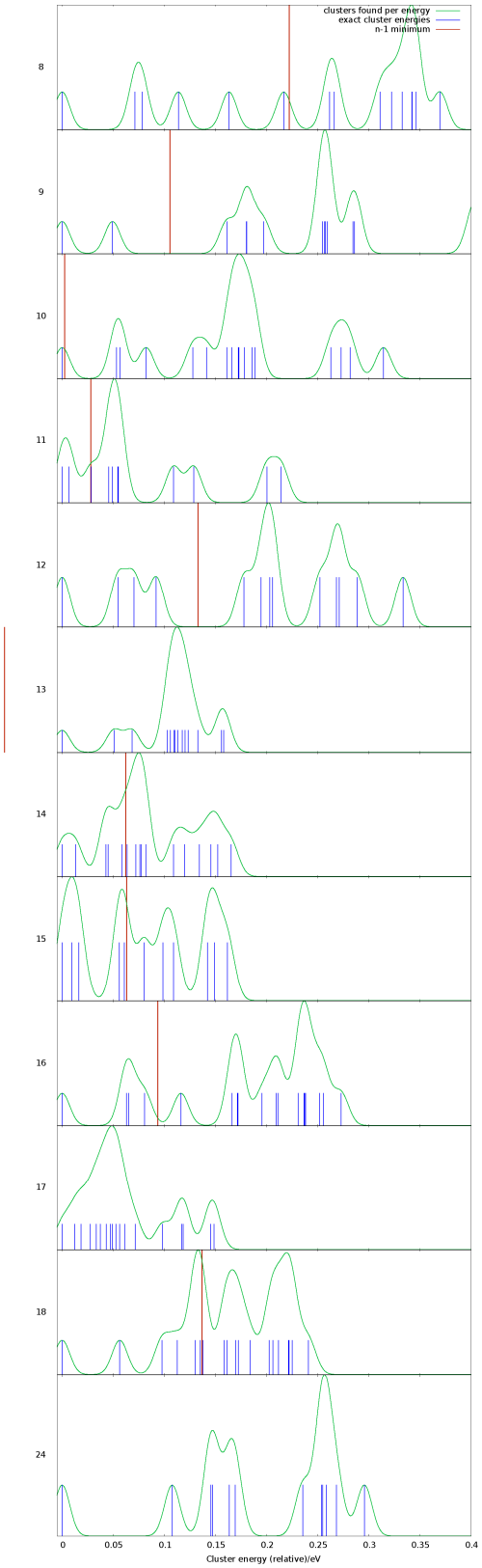

Figure S5: Density of structures for CaO at T = 300K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

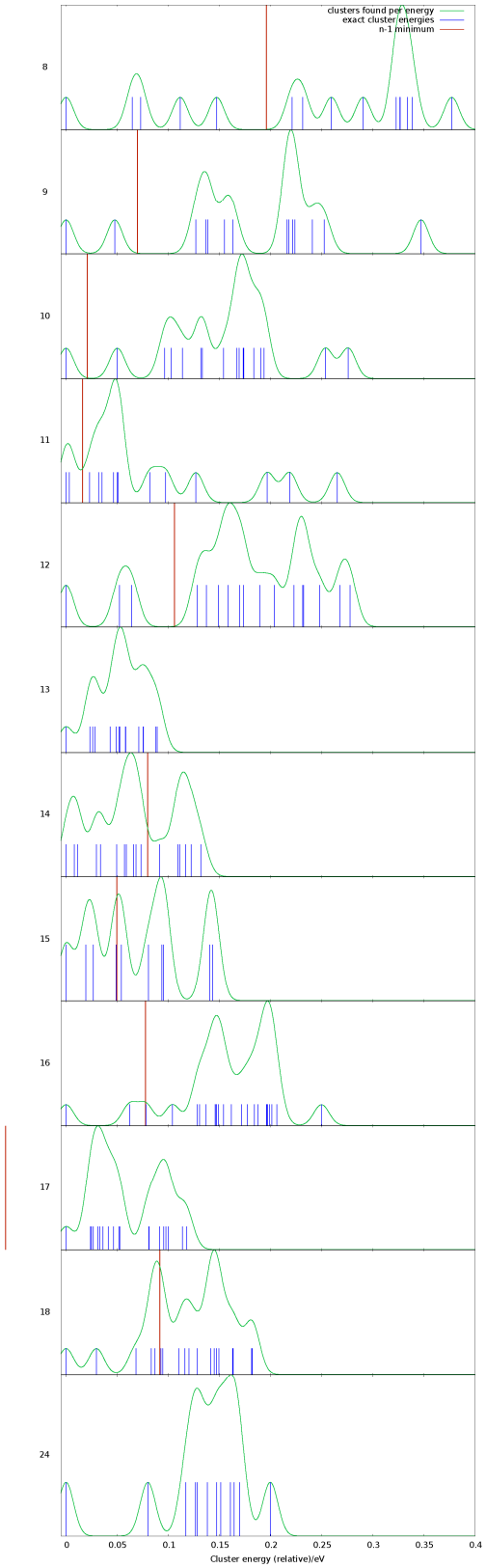

Figure S6: Density of structures for SrO at T = 300K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.

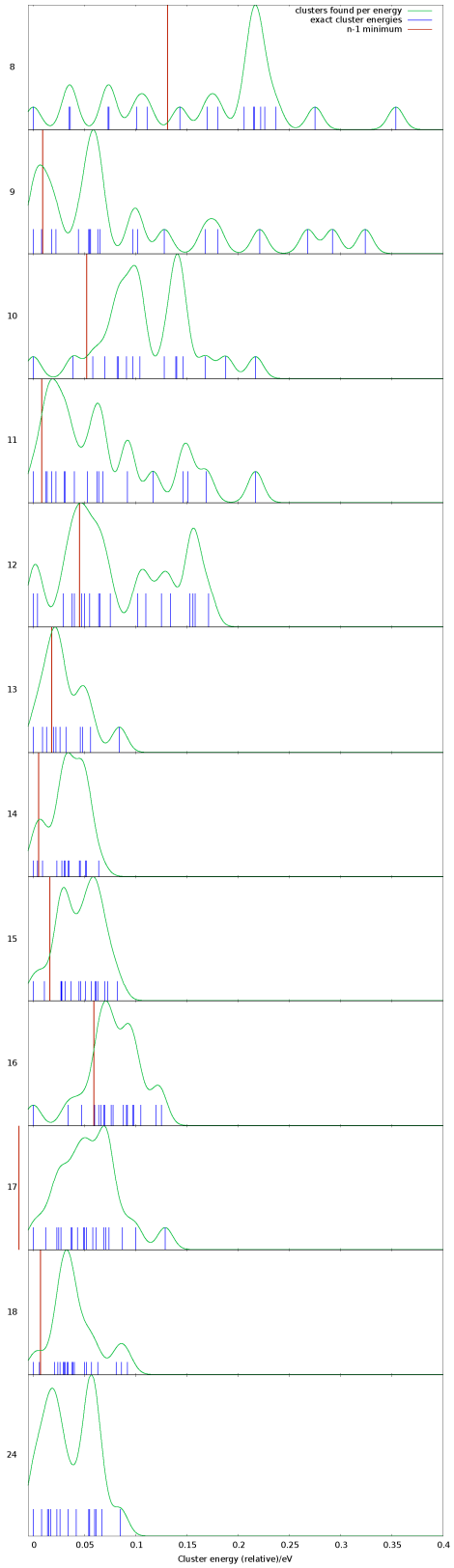

Figure S7: Density of structures for BaO at T = 300K. Blue impulses indicate LM energies (per formula unit), green curves are thermally smeared energies indicating overlap of different structures, red impulses indicate the $n-1$ local minimum.