Equilibrium distribution of symmetric self-assembled structures
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— Many self-assembled structures are symmetric and are composed of
identical subunits. The assembled structure depends not only on subunit position,
but also on orientation, (ie. virus capsids, Janus particles, and liquid crystals).
We find the equilibrium distribution of various symmetric self-assembly systems by
enumerating all possible clusters. The degeneracy of the minima depends on the
symmetry of the cluster. Theoretical results are compared with numerical simula-
tions of the Langevin equation and macroscopic experiments. The validity of this
comparison is proven by deriving the Smoluchowski equation for interacting elements
that depend on orientation.

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