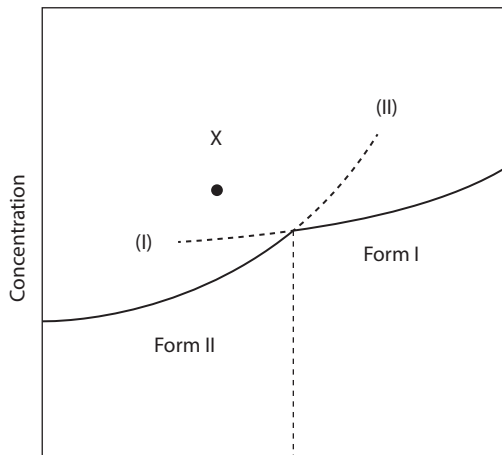


**FIGURE 6.6** Enantiotropic system as a function of temperature ( $x$ -axis).



**FIGURE 6.7** Enantiotropic system with metastable phases as a function of temperature ( $x$ -axis).

An unstable system does not necessarily transform directly into the most stable state but into one that most closely resembles its own, that is, into another transient state, whose formation from the original is accompanied by the smallest loss of free energy.

When a decision needs to be made on whether two polymorphs are enantiotropes or monotropes, it is very useful to use the thermodynamic rules developed by Burger and Ramberger, which are tabulated in [Table 6.3](#).

The stability of polymorphs is thermodynamically related to their free energy. The more stable polymorph has the lower free energy at a given temperature. The aforementioned classification of polymorphic substances into monotropic and enantiotropic classes, from the lattice theory perspective, is not always appropriate. There is a need to explore the way in which the crystal lattice structures of polymorphs