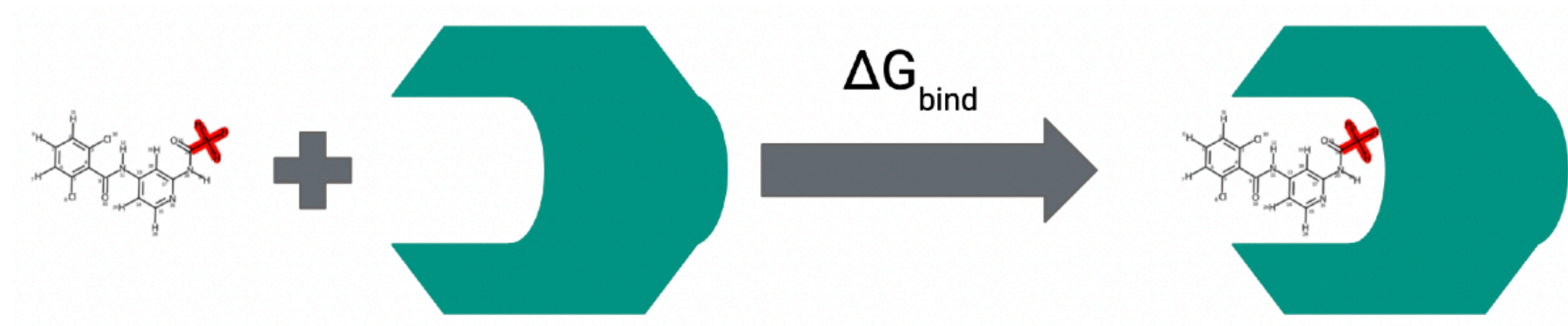
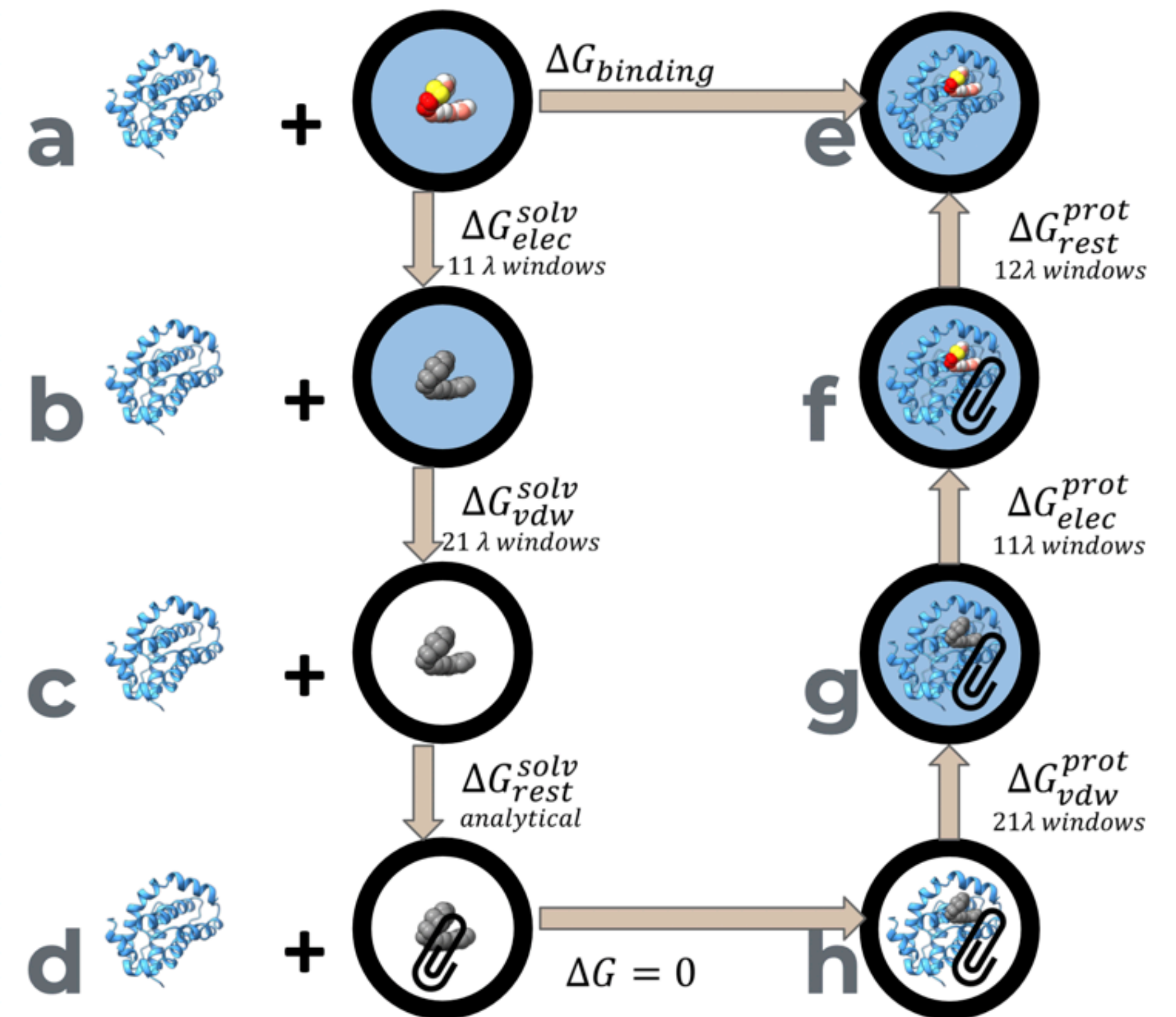


Absolute binding cycle

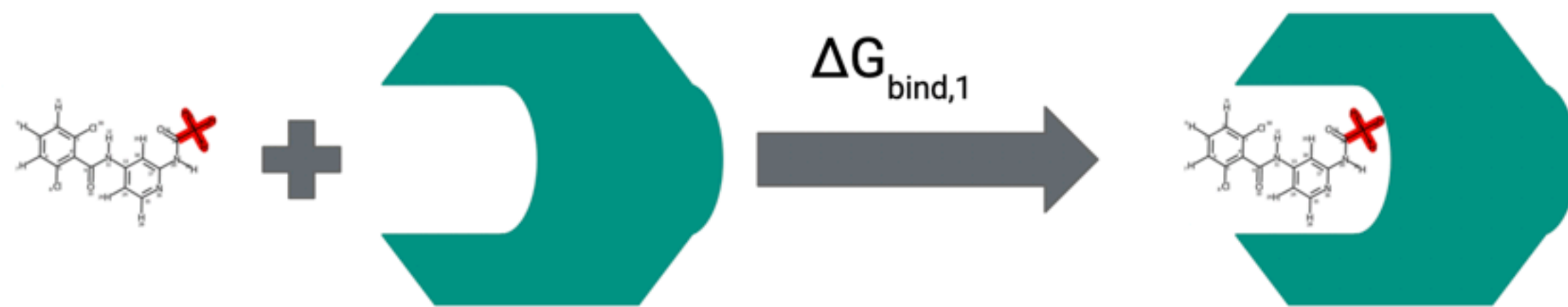


We can calculate an absolute binding free energy through a sequence of alchemical transformations



Relative Binding Free Energies

I have 2 potential drug compounds: which one is the more effective drug?



- To know which ligand is better, we can look at the sign of the $\Delta\Delta G$



$$\Delta\Delta G = \Delta G_{\text{bind},2} - \Delta G_{\text{bind},1}$$