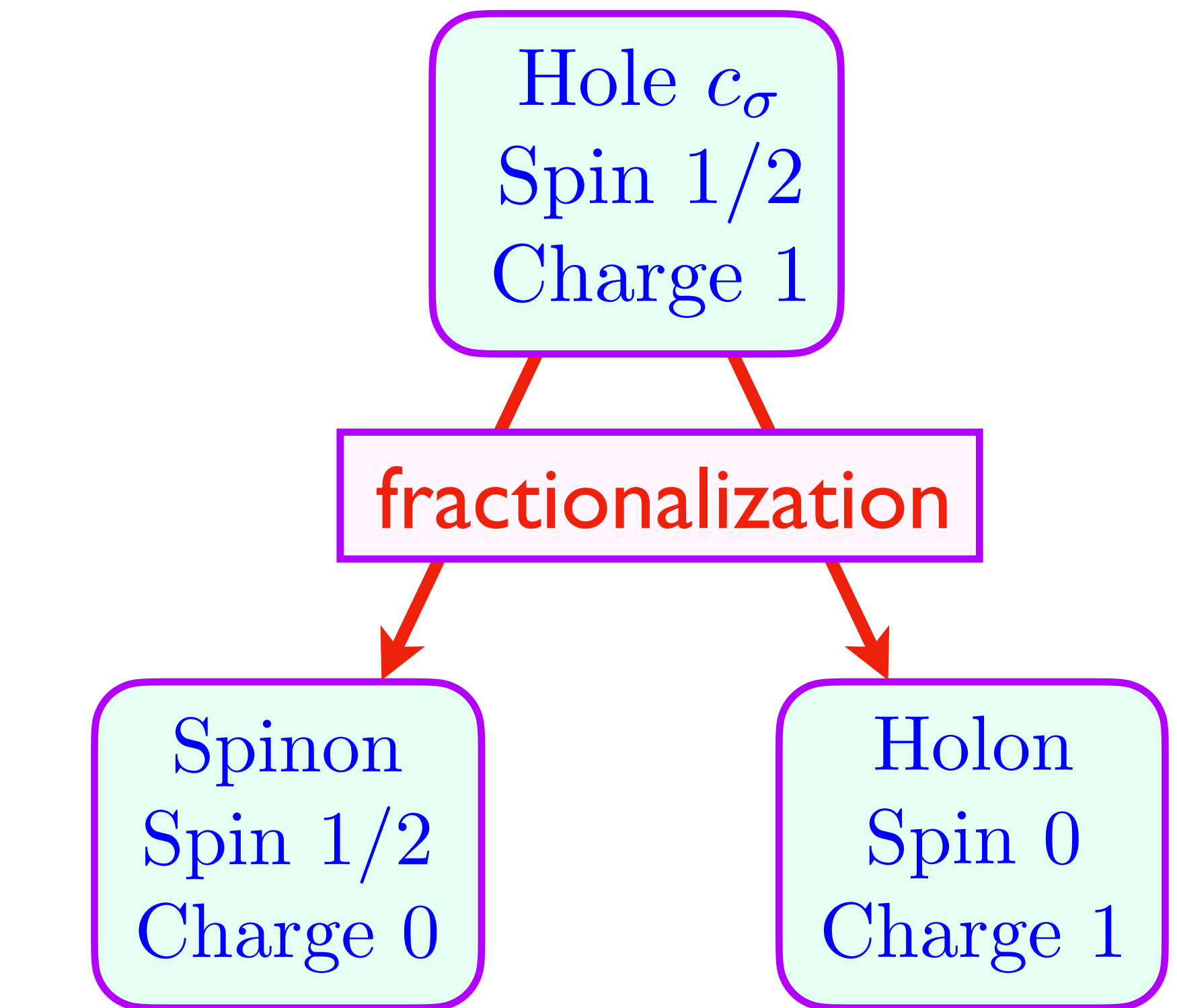


(a) Paramagnon fractionalization



(b) Electron fractionalization