Electronic Transition in Chemiluminescence Reactions

1st Step is an electron transfer from one reactant to the other which results in an “excited state” product. This product then releases a photon as it drops to the “ground state” (stable electronic configuration).

LUMO: Lowest Unoccupied Molecular Orbital
HOMO: Highest Occupied Molecular Orbital

\( h\nu \) represents a photon

* represents an excited state (i.e. an electron being at a higher energy level than can occupy.)

Chemiluminescence of Luminol