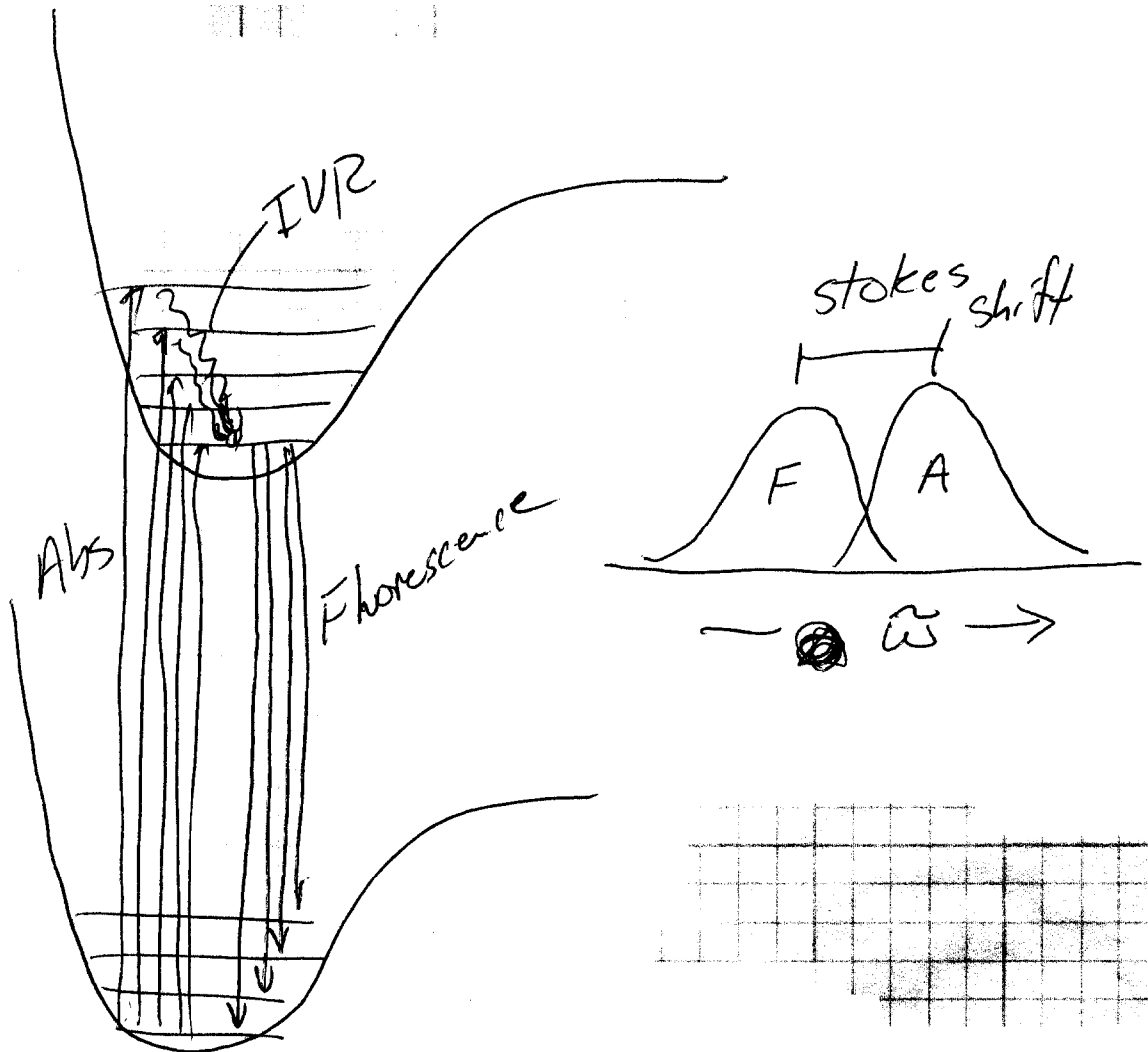


① $rot < vib < ele$

② rot 0.01 - 1 cm^{-1} microwave
 vib 400 - 4000 cm^{-1} IR
 ele 10,000 - 100,000 cm^{-1} UV-VIS

③



④ The BOA allows us to write

$$H_{mol} = H_{el} + H_{vib} + H_{rot} \quad \text{so } \Psi_{mol} = \Psi_{el} \Psi_{vib} \Psi_{rot}$$

and $E_{n,v,j} = E_{el,n} + E_{vib,v} + E_{rot,j}$