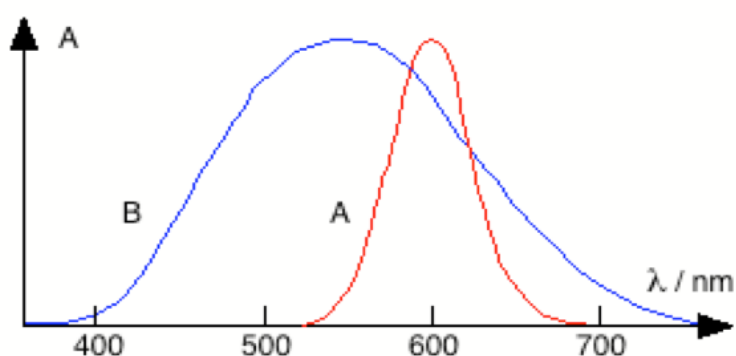

Photochemistry I – Problems

Series B

1. A photographic dye-sensitizer A and another dye B, used for the photochemical conversion of solar energy exhibit absorption spectra shown here below. Assuming that these spectra correspond in both cases to a single electronic transition with an oscillating strength $f = 1$, what are the values of the extinction coefficients of the dyes at the maximum of their absorption bands ?



2. Mc2 is a photographic sensitizer belonging to the class of merocyanine dyes.
- Using the absorption spectrum here below, estimate the value of the transition dipole moment $m_{1 \leftarrow 0}$ of the molecule.
 - How would the absorption spectrum of the merocyanine dye Mc0, whose structure is given here below, look like ?

