molar absorption coefficient, $\varepsilon$

molar decadic absorption coefficient
Absorbance divided by the absorption pathlength, $l$, and the amount concentration, $c$:

$$\varepsilon(\lambda) = \frac{1}{c \ l} \ \log \left( \frac{P^0}{P_\lambda} \right) = \frac{A(\lambda)}{c \ l}$$

where $P^0$ and $P_\lambda$ are, respectively, the incident and transmitted spectral radiant power.

Note 1: The term molar absorptivity for molar absorption coefficient should be avoided.

Note 2: In common usage for $l$/cm and $c$/mol dm$^{-3}$ (M), $\varepsilon(\lambda)$ results in dm$^3$ mol$^{-1}$ cm$^{-1}$ (M$^{-1}$ cm$^{-1}$, the most commonly used unit), which equals 0.1 m$^2$ mol$^{-1}$ (coherent SI units).

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