

## **molar absorption coefficient, $\epsilon$**

molar decadic absorption coefficient

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

$$\epsilon(\lambda) = \left( \frac{1}{c l} \right) \lg \left( \frac{P_{\lambda}^0}{P_{\lambda}} \right) = \frac{A(\lambda)}{c l}$$

where  $P_{\lambda}^0$  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<sup>-3</sup> (M),  $\epsilon(\lambda)$  results in dm<sup>3</sup> mol<sup>-1</sup> cm<sup>-1</sup> (M<sup>-1</sup> cm<sup>-1</sup>, the most commonly used unit), which equals 0.1 m<sup>2</sup> mol<sup>-1</sup> (coherent SI units).

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