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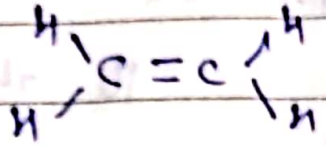
Mo Tu We Th Fr Sa Su

On conjugation, the absorption maxima appears to a longer wave length.

eg



$CH_2 = CH - CH = CH_2$

$\lambda max = 170$ Nm $\lambda max = 217$ Nm.

Auxochromes :-

Any group which doesn't itself act as a chromophore but whose presence bring about a shift of the absorption band towards longer wave length.

eg -

$-OH, -OR, -NH_2, -NR_2, -SH$

etc are auxochromes.

eg

$\lambda max = 255$ Nm

$\lambda max = 280$ Nm.

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* Absorption & intensity shift

(1) Bathochromic shift –

The absorption maxima appear as longer wave length due to presence of chromophore or change in solvent.

also called Red shift.

(2) Hypsochromic shift –

The absorption maxima appears towards shorter wave length. This is due to removal of conjugation or by changing the polarity of the solvent.

also called Blue-shift.

(3) Hyper chromic shift. –

When the intensity of absorption maxima (ε_{max}) increases. called Hyper chromic shift

eg –

$\varepsilon_{max} = 400$

$\varepsilon_{max} = 300$

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(4) Hypsochromic shift –

When the intensity of absorption maxima (ε_{max}) decreases. called Hypsochromic shift.