

Supplementary Materials

# Efficient Removal of Methyl Red Dye by Using Bark of Hopbush

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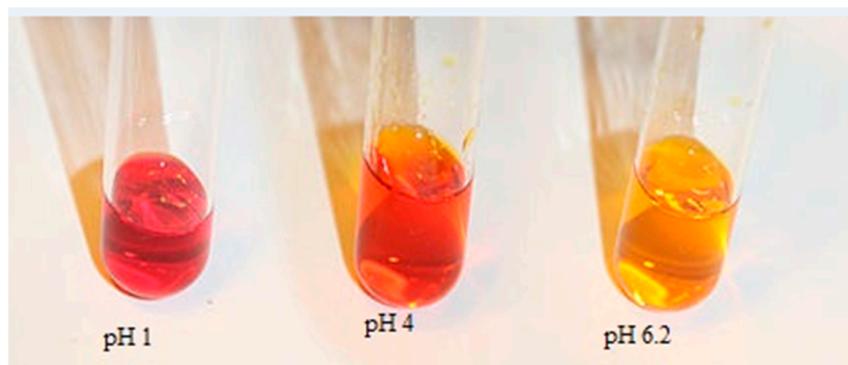
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**Figure S1.** Colour of methyl red at different pH.

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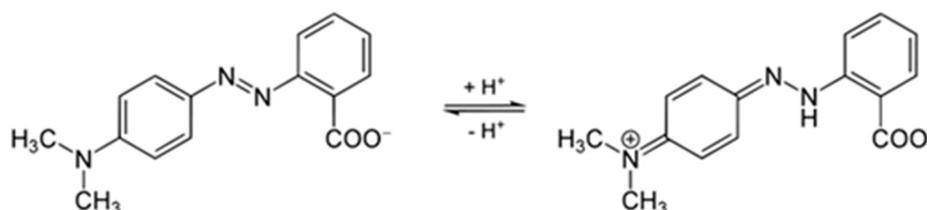
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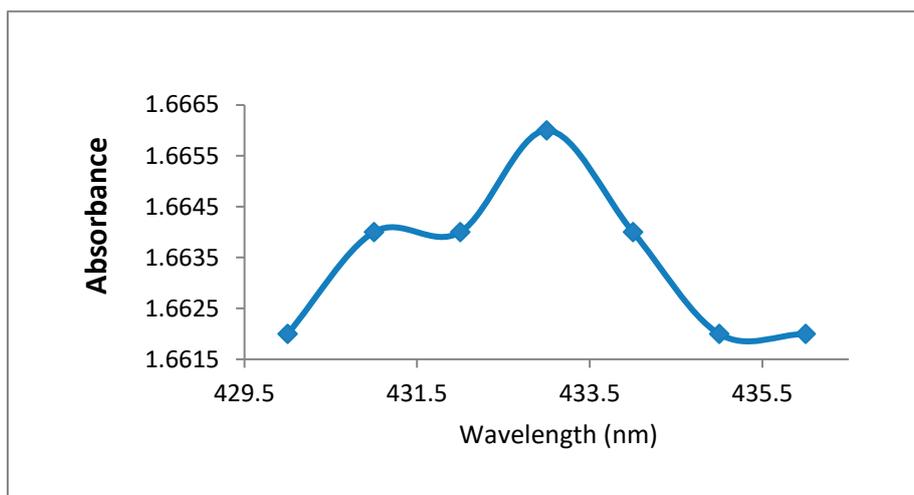


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**E1:** Methyl Red gives different colour (Fig S1, E1) at different pH [41]. The following is the structure of methyl red which is unprotonated form of methyl red and is yellow in color due to extended conjugation. When dimethyl amino group is protonated the quinone diimine is formed, which is a dark colored chromophore [27, 40]. Figure S2 shows the protonation of methyl red dye. However, Figure S3 is the representative figure of determination of wavelength maximum of methyl red.



**Figure S2.** Protonation of methyl red in acidic solutions.



**Figure S3.** Plot of absorbance as a function of wavelength to determine wavelength maximum ( $\lambda_{\max}$ ).