

Supporting Information

Surface-Functionalized Silica Aerogels and Alcohels for Methylene Blue Adsorption

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The chemical structure of methylene blue dye molecule is shown in figure SI 1.

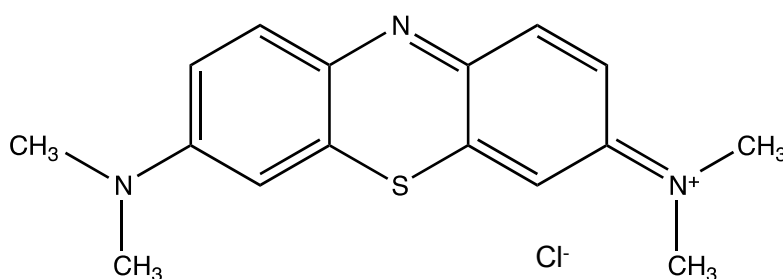


Figure SI 1

The UV-Vis spectra of methylene blue aqueous solutions were found to be different at various pHs as shown in Figure SI 2. The correlation between the obtained spectra and the reported characteristic bands of methylene blue ²⁴ shows that the protonated form MBH²⁺ dominates at pH 1 whereas in the pH range between 2 and 10 the monomer MB⁺ is dominant. At higher pHs, the dimer (MB⁺)₂ and trimer (MB⁺)₃ forms dominate. Accordingly, we selected the range between pH 2 and 10 to be used in this study as this is where the monomer form of methylene blue dominates. The adsorption of the dye on the solid material was followed at 664 nm (λ_{\max}).

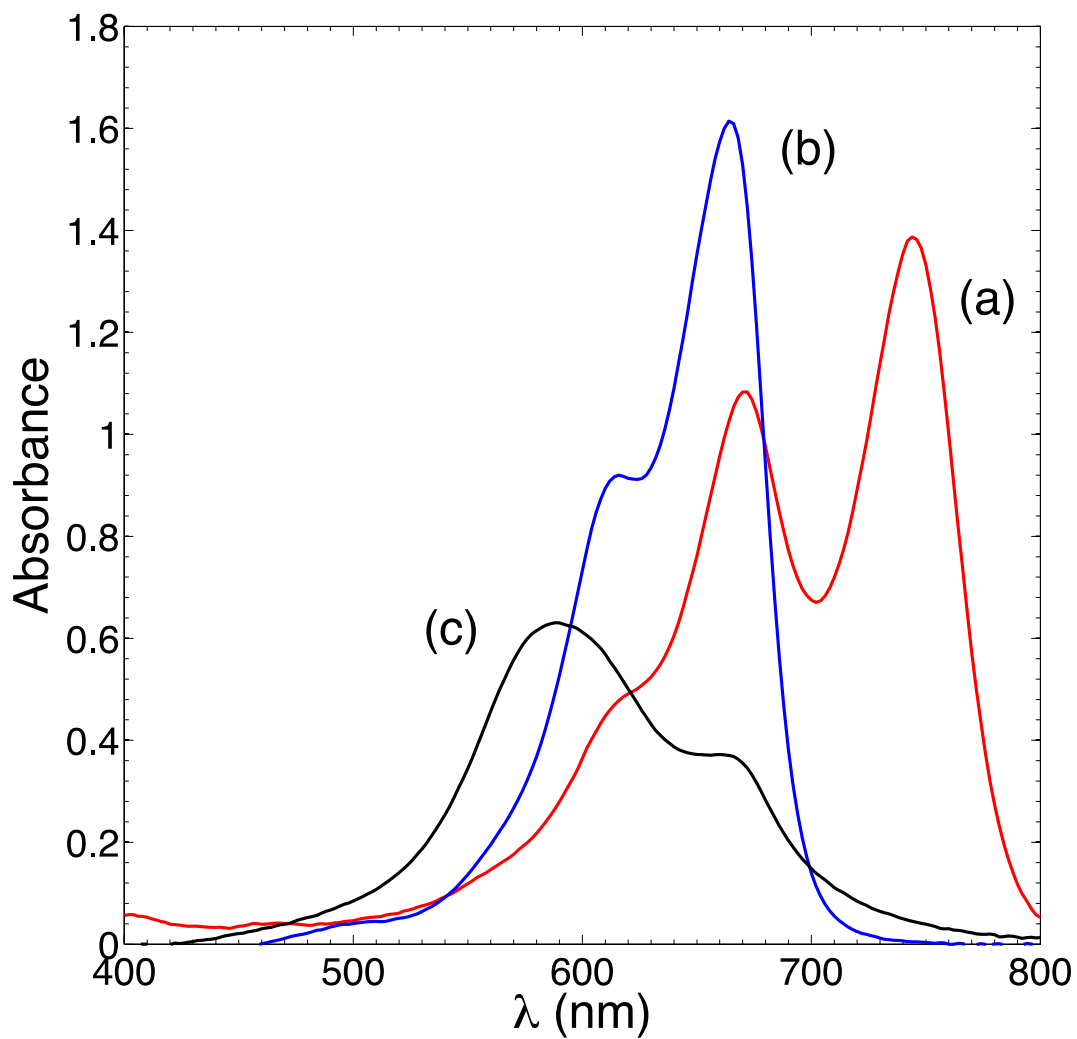


Figure SI 2

Figure SI 1. Chemical structure of methylene blue.

Figure SI 2. UV-VIS spectrum of 10 mg/L methylene blue solutions at (a) pH 1; (b) pH between 2 and 10; and (c) pH greater than 10.