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Title: Rapid reduction of dye pollutants and hexavalent chromium by silver-sulphur oxido-vanadium cluster

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Rapid Reduction of Dye Pollutants and Hexavalent Chromium by Silver-Sulphur Oxido-Vanadium Cluster

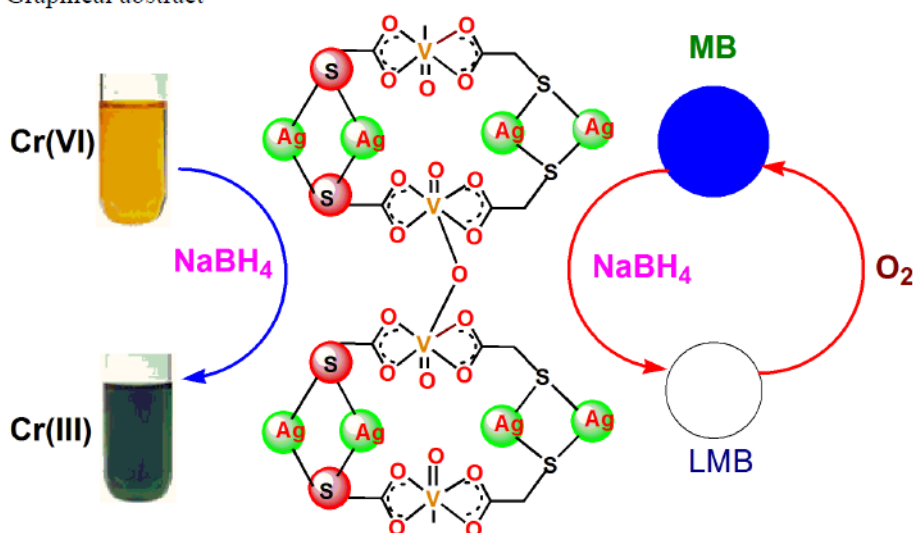
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Graphical abstract



Reduction of pollutant dye and Cr(VI) was achieved within few second with AgVT catalyst

Abstract: Very fast reduction of methylene blue, methyl orange and chromium (VI) was achieved with silver-sulphur-oxido-vanadium cluster in presence of sodium borohydride as reducing agent. With 10 mg of the catalyst and 100 μ L of 3 mM solution of sodium borohydride, methylene blue solution of 0.01mM concentration could be reduced within 4-5 sec. While with 10 mg of catalyst and 20 mL of sodium borohydride, 30 mg of methylene blue dissolved in water got decolourized within 10 min. Aerial oxidation of reduced leuco methylene blue species to methylene blue was seen after 3h on standing the reduced colourless solution of methylene blue. Prominent reduction of either methylene blue or