









easily separated from the product, 4-aminophenol, using a external magnet.

## 5. Conclusion

The catalytic performance of Fe-Ag/TiO<sub>2</sub> for the reduction of 4- NP to 4-AP was tested as a model reaction with an excess amount of NaBH<sub>4</sub>. Accordingly, the reduction rates can be regarded as being independent of the concentration of NaBH<sub>4</sub>. After adding NaBH<sub>4</sub> into the aqueous solution of 4- NP, the color of the solution changed from light yellow to dark yellow due to the formation of 4-nitrophenolate ion. Then, the color of the 4-nitrophenolate ions faded with time after the addition of Fe-Ag/TiO<sub>2</sub>. The progress of the reaction could be monitored by UV-Vis spectroscopy. The characteristic peak of 4-NP at 400 nm decreased, while at 300nm a new peak appeared which were assigned to 4-AP. The reaction was finished within 60s at room temperature. The reaction did not proceed in this period in the absence of Fe-Ag/TiO<sub>2</sub> catalyst or with un-doped TiO<sub>2</sub> alone.

## 6. Acknowledgements

The author is thankful to UGC-BSR, New Delhi for financial support. The author express gratitude to University of Hyderabad for providing spectral data.

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