

a) Research projects undertaken

- i) Analysis of uranium and some other heavy metals of toxicological significance in water samples. CSIR, New Delhi(2001-2003). **Completed**
- ii) Aggregation behaviour of Tween 80 in the presence of glycol oligomers and triblock polymer. IUC-BARC, Mumbai(2001-2003) **completed**
- iii) New chemical sensors based on calix[4]arenes, CSIR,New Delhi(2002-2004)**completed**
- iv) Aggregation behaviour of mixed micelles of cationic surfactants with triblock polymers. UGC-DAE-BARC Mumbai January (2006) (on going)
- v) Chemical Sciences based on New Ionophores , CSIR, New Delhi (2006) on going

List of Publications - Dr. Rakesh Kumar Mahajan

1. Cyclic Voltammetry Investigation of the Mixed Micelles of Conventional surfactants with L64 and F127.
R. K. Mahajan, N. Kaur and M. S. Bakshi, Colloids and Surfaces A: Physicochem. Eng. Aspects, (2006) 276, 221.
2. A comparative behavior of photophysical properties of Pluronic F127 and Triton X-100 with conventional zwitterionic and anionic surfactants.
M. S. Bakshi, N. Kaur and **R. K. Mahajan, Journal of Photochemistry and Photobiology A: Chemistry, (2006) 183, 146**
3. Mercury(II) ion sensing with PVC-matrix based membrane sensors.
R. K. Mahajan, R. Kaur and T. S. Lobana, Indian Journal of Chemistry, (2006) 45A , 639.
4. Cyclopentanone thiosemicarbazone, a new complexing agent for copper determination in biological samples by adsorptive stripping voltammometry.
R. K. Mahajan, T. P. S. Walia, Sumanjit and T. S. Lobana, Analytical Sciences, (2006) 22, 389.
5. Estimation of Degree of Counterion Binding and Related Parameters of Monomeric and Dimeric Cationic Surfactants from Cloud Point Measurements by using Triblock Polymer as Probe.
M. S. Bakshi N. Kaur, **R. K. Mahajan, J. Singh and N. Singh, Colloids and Polymer Science, (2006) 284, 879.**
6. Trace Level determination of U, Zn, Cd, Pb and Cu in drinking water samples.
M. Kumar, S. Singh and **R. K. Mahajan, Environment Monitoring and Assessment, (2006) 112, 283.**
7. Mixed Micelles of Binary Triblock Polymer mixtures in pure water at 30⁰C.
M. S. Bakshi, P. Bhandari, S. Sachar and **R. K. Mahajan, Colloids and Polymer Science, (2006) 284, 1363.**
8. Analysis of physical and chemical parameters of bottled drinking water.
R. K. Mahajan, T. P. S. Walia, B. S. Lark and Sumanjit, Int. J. Environ. Health Res., (2006) 16, 89.
9. Calix{4}arene derivatives : Efficient Ionophores for Silver(I)ion sensors.
R. K. Mahajan, I.Kaur, R. Kaur, V. Sharma and M. Kumar, Bulletin of the Chemical Society of Japan, (2005) 78, 1635.

10. Solid phase microextraction-high pressure liquid chromatographic determination of Nabam, Thiram and Azamethiphos in water samples with UV detection: preliminary data.
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11. ^{226}Ra , ^{232}Th and ^{40}K analysis in soil samples from some areas of Punjab and Himachal Pradesh, India using gamma ray spectrometry.
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12. Effect of temperature on the micellar properties of polyoxyethylene glycol ethers and twin tail alkylammonium surfactants.
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13. The study of indoor radon in dwellings of Bathinda district, Punjab, India and its correlation with uranium and radon exhalation rate in soil.
S. Singh, M. Kumar and **R. K. Mahajan**, *Radiation Measurements*, (2005) 39, 535.
14. The versatility of salicyldehyde thiosemicarbazone in the determination of copper in blood using Adsorptive stripping Voltammometry.
R. K. Mahajan, T. P. S. Walia, Sumanjit and T. S. Lobana, *Talanta*, (2005) 67, 755.
15. Cyclic Voltammetry Investigation of the Mixed Micelles of Cationic Surfactants with Pluronic F68 and Triton X-100.
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29. Analysis of uranium and its correlation with some physico-chemical properties of drinking water samples from Amritsar, Punjab,
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