Bagul, R. S.; Rajesh, Y. B. R. D.; Jayamurugan, G.; Bera, A.; Sood, A. K.; Jayaraman, N. 2013, "Photophysical behavior of poly(propyl ether imine) dendrimer in the presence of nitroaromatic compounds", *J. Photochem. Photobiol. A: Chem.*, *253*, 1-6.

The manuscript describes non-covalent interaction of electron-rich poly(propyl ether imine) (PETIM) dendrimer and electron deficient nitroaromatic compounds. Amine-rich PETIM dendrimers exhibit inherent fluorescence, as a result of the presence of multiple nitrogen and oxygen centres within the molecular structure. The presence of defined inner cavities of the dendritic structure provides additional features in studies involving this series of dendrimers. The interaction of the electron-deficient aromatic molecules with the third generation PETIM dendrimer, by following changes in the inherent fluorescence of the dendrimer, was monitored. The interaction of nitrophenols, nitrobenzenes and nitrotoluenes are studied, through steady-state and time resolved fluorescence studies. From these studies, the nature of interaction between the host and guest, either in the ground- or in the excited state, is identified. Continuing the studies, we undertook to conduct Raman spectral characterization of the host-guest interaction. This characterization helped further to ascertain the nature interaction.