

PhD Open Seminar

- Speaker:** Amit Kumar (1010201)
- Thesis Supervisor:** Dr. Sangit Kumar
- Thesis Title:** Application of S_NAr in the Synthesis of Chalcogenides and novel Nitro-biaryl-ols Transformation of Nitro-biaryl-ols into Advanced Heterocycles Indoles, Carbazoles and Dibenzofurans
- Date & Time:** 13th April 2015; 15:00 hours
- Venue:** AB-2, 401 (Bhauri Campus)

Abstract

Nucleophilic aromatic substitution (S_NAr) reaction is an attractive approach for the construction of C-C bond and C-X (X = O, N, S, Se) bonds in organic synthesis. Phenols are very common and important structural motifs found in various biologically active and pharmaceutical compounds. Therefore direct arylation of phenol attracted more attention. In this seminar, I will discuss about the mild and transition-metal free method for the construction of nitro-biaryl-ols using phenol and nitro-bromo-arenes as coupling partner. Moreover, I will describe the constructive utilization of synthesized nitro-biaryl-ols for the synthesis of advanced heterocycles carbazoles, dibenzofurans and biaryl-indoles.

Unsymmetrical diaryl chalcogenides have numerous applications in chemistry such as ligand for complexation, sensors for small molecule detection, catalytic properties in oxidation reactions, and biological antioxidant activities. Therefore synthesis of unsymmetrical chalcogenides has attracted considerable interest. The mild and efficient methods for the synthesis of unsymmetrical chalcogenides will also be discussed in the seminar.

- ❖ Kumar, A.; Yadav, A.; Verma, A.; Jana, S.; Sattar, M.; Kumar, S.; Prasad, C. D.; Kumar, S. *Chem. Commun.* **2014**, *50*, 9481
- ❖ Kumar, A.; Kumar, S. *Tetrahedron*, **2014**, *70*, 1763
- ❖ Kumar, A.; Bhakuni, B. S.; Prasad, C. D.; Kumar, S.; Kumar, S. *Tetrahedron*, **2013**, *69*, 5383
- ❖ Kumar, A.; Sattar, M.; Verma, A.; Kumar, S. *manuscript communicated*

All are cordially invited