Synthesis of Indoles, Pyrazoles, and Pyridazinones

**Significance:** Reported is a one-pot synthesis of indoles, pyrazoles, and pyridazinones by a variation of the Japp–Klingemann Fischer indole synthesis, involving a trifluoromethylation. The reaction was found to well-tolerate a variety of functionalized arenediazonium salts and aryl allyl ketones. 

**Comment:** The indole and pyrazole heterocyclic core is found in a number of top-selling drugs, such as sumatriptan, zolmitriptan, rizatriptan, tadalafil, and celecoxib. Therefore, a simple and efficient synthesis of these heterocyclic cores is a worthwhile quest. The developed method gives access to various trifluoromethylated heterocycles. Previously, a similar methodology has been used to synthesize pyrazoles. The method provides a general approach to the synthesis of various heterocycles.

**Key words**
- Indoles
- Pyridazinones
- Pyrazoles
- Diazonium salts
- Alkenes

**Category**
- Synthesis of Heterocycles

SYNFACTS Contributors:
Victor Snieckus, M. Selim Hossain (Snieckus Innovations)

Synfacts 2015, 11(1), 0021 Published online: 15.12.2014
DOI: 10.1055/s-0034-1379730; Reg-No.: V15614SF