Palladium-Catalyzed Synthesis of Isatins from Anilines by Double Carbonylation

**Significance:** Lei and co-workers report a palladium-catalyzed synthesis of isatins by double carbonylation and ortho C–H bond activation of aniline derivatives. Poor to good substrate scope was observed under the optimized reaction conditions. A mechanism is suggested, in which palladium C–H bond insertion is followed by the two consecutive CO insertion reactions.

**Comment:** The isatin structure has been given privileged status because of the generation of a large number of structurally diverse derivatives which inhibit cancer cell proliferation and tumor growth by interaction with a variety of intracellular targets such as DNA, telomerase, tubulin, P-glycoprotein, protein kinases, and phosphatases (K. L. Vine, J. M. Locke, M. Ranson, K. Benkendorff, S. G. Pyne, J. B. Brenmer *Bioorg. Med. Chem.* 2007, 15, 931). In the present methodology, substrates and catalysts were inadequately studied. The origin of poor yields (e.g., 1 and 2) were also unidentified.

---

**SYNFAC T S Contributors:** Victor Snieckus, M. Selim Hossain (Snieckus Innovations)

Synfacts 2015, 11(3), 0241  Published online: 16.02.2015

DOI: 10.1055/s-0034-1380234; Reg-No.: V00115SF