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Abstract: Ultrasonic (US) irradiation was successfully used as an alternative energy source to prepare 3-selanylindoles through the direct selanylation of indoles with diorganoyl diselenides using CuI (20 mol%) as catalyst and DMSO as the solvent. By using this US-promoted reaction, eleven 3-organylselanylindoles were prepared selectively and in good yields. A comparative study between the reactions under conventional heating, microwave and ultrasound irradiations was performed, and it was observed advantage in using US over the other heating systems.

Keywords: sonochemistry; 3-arylselanylindoles; organoselenium; copper-catalysis; green chemistry.