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Facile Synthesis of New Quinoxalines from Ethyl Gallate by Green

Chemistry Protocol

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Abstract

Efficient synthesis of quinoxalines from gallic acid ethyl ester is reported for the first time in this study. The results show the production of three heterocyclic amines instead of the amides expected from aminolysis reactions. Ethyl 8-hydroxy-1,2,3,4-tetrahydroquinoxaline-6-carboxylate **G-A1**, ethyl 2,3,6,7-tetrahydro-1*H*,5*H*-pyrazino[1,2,3-*de*]quinoxaline-9-carboxylate **G-A2**, and ethyl 8-hydroxy-4-(2-hydroxyethyl)-1,2,3,4-tetrahydroquinoxaline-6-carboxylate **G-A3** were obtained with 97, 92, and 95% yield, respectively, after 30 min of reaction at 65 °C and 400 rpm using ethanol as a solvent.

Keywords: Green chemistry; Gallic acid; Heterocyclic amines; Quinoxalines.

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