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Title: Palladium(II)-Promoted Directing Group-Enabled Regioselective C-H Arylation of The C-3 Position of 2- or 3-(Aminoalkyl)-Thiophene and Furfurylamine Derivatives

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Abstract: The palladium(II)-promoted, bidentate ligand-assisted regioselective C-H activation/arylation of the C-3 position of 2- or 3-(aminoalkyl)-thiophene and furfurylamine derivatives with various aryl-/heteroaryl iodides was reported. Various aryl-/heteroaryl iodides and bidentate ligands, such as, picolinamide, quinoline-2-carboxamide, pyrazine-2-carboxamide and oxalamide were examined for accomplishing the regioselective palladium(II)-promoted C-H arylation and C-C bond formation at the C-3 position of the 2-/3-(aminoalkyl)-thiophene and furfurylamine derivatives. The X-ray structures of the regioisomers 8 c and 9 c confirmed the observed regioselectivity. This C-H activation/arylation method gave an access to several C3-arylated 2/3-(aminoalkyl)-thiophene- and furfurylamine based biaryl scaffolds that are analogous to biologically active C3-arylated 2/3-(aminoalkyl)-thiophenes and furfurylamines.

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