Title:	Pd(OAc)2/AgOAc catalytic system based bidentate ligand directed regiocontrolled C-H arylation and alkylation of the C-3 position of thiophene- and furan-2-carboxamides
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Abstract:	A contemporary method is reported for the Pd(OAc)2/AgOAc catalytic system based bidentate ligand directed, regioselective C-H activation and C-C bond formation at the C-3 position of thiophene- and furan-2-carboxamides, which are derived from 8-aminoquinoline or 2-(methylthio)aniline. The Pd-catalyzed C-H arylation of thiophene- and furan-2-carboxamides with a variety of aryl iodides and heteroaryl iodides was highly regioselective and afforded C-3-arylated thiophene-2-carboxamides and furan-2-carboxamides in good to very good yields. The bidentate ligand directed Pd(OAc)2/AgOAc based strategy was also successfully employed for benzylation and alkylation reactions of the thiophene-2-carboxamides. These reactions occurred with high regioselectivity to afford the C-3-benzylated and C-3-alkylated thiophene-2-carboxamides in good yields. The observed regioselectivity of these reactions was confirmed by X-ray crystal structure analyses of compounds 3e, 5a, and 6a. A contemporary method is reported for the Pd(OAc)2/AgOAc catalytic system based bidentate ligand directed, regioselective C-H activation and C-C bond formation of the C-3 position of thiophene- and furan-2-carboxamides. This protocol was used for the direct C-3 arylation and alkylation reactions of both thiophene- and furan-2-carboxamides. Copyright
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