5-(Naphth-1-yl)- and 5-[(1,1'-Biphenyl)-4-yl]isoxazole-3-carbaldehyde Oximes: Synthesis, Complexes with Palladium, and Application in Catalysis

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Abstract—1-(Naphth-1-yl)- and 1-[(1,1'-biphenyl)-4-yl-3,4,4-trichloro-3-buten-1-ones were synthesized by acylation of naphthalene and biphenyl with 3,4,4-trichloro-3-butenoyl chloride. Further reaction with hydroxylamine led to 5-(naphth-1-yl)- and 5-[(1,1'-biphenyl)-4-yl]isoxazole-3-carbaldehyde oximes. The latter form complexes with palladium, which possess high catalytic activity in the Suzuki reaction in aqueous and aqueous-alcoholic media.

Keywords: isoxazoles, oximes, complexes with palladium, catalyst, cross-coupling, quantum-chemical calculations

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