

**Selective hydroformylation - acetalization of aryl alkenes in methanol catalyzed by RhCl<sub>3</sub>·3H<sub>2</sub>O - P(OPh)<sub>3</sub> system.**

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**Abstract**

Branched acetals R<sub>1</sub>CHMeCH(OR<sub>2</sub>)<sub>2</sub> (R<sub>1</sub> = Ph, 2-ClC<sub>6</sub>H<sub>4</sub>, 4-MeOC<sub>6</sub>H<sub>4</sub>, 2-naphthyl, etc.; R<sub>2</sub> = Me, Et, n-Pr, Me<sub>2</sub>CH, n-Bu) were regioselectively formed under hydroformylation conditions of aryl alkenes R<sub>1</sub>CH:CH<sub>2</sub> in alcs. R<sub>2</sub>OH as solvents. The hydroformylation process is combined with acetalization in a one-pot reaction leading to acetals as final products. These reactions sequences were catalyzed by the simple rhodium catalyst RhCl<sub>3</sub>·3H<sub>2</sub>O. The effects of the addn. of different types and amts. of phosphine and phosphite ligands were carefully studied in order to improve the regioselectivity of the reaction.