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High degree of chemoselectivities recorded during the Reformatsky reaction on coumarinyl phenyl ketones and formyl coumarins

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Bromo-zinc enolate reagents show excellent chemo-selectivity towards 7-methoxy-8-coumarinyl phenyl ketones (1, 2) and furnish α-alkylidene chromene derivatives (5-10) together with bridged-lactone (11), cinnamate derivative (12) and γ-benzopyran (13). 7-Methoxy-8-formylcoumarins (3, 4) afford β-hydroxy esters (14, 16) and α,β-unsaturated esters (15, 17-21) showing excellent chemoselectivity with E-configuration.

Keywords: Bromo-zinc enolates, Coumarin, Configuration, Stereoselectivity, Chromene