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Selective ruthenium-catalyzed double reductive aminations using hydrosilane to access tertiary amines and piperidine derivatives

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# Selective ruthenium-catalyzed double reductive aminations using hydrosilane to access tertiary amines and piperidine derivatives

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$$R^{1} = \frac{R^{1} - CHO}{[RuCl_{2}(arene)]_{2} (cat)} R^{2} - NH_{2}$$

$$R^{1} = \frac{R^{1} - CHO}{[RuCl_{2}(arene)]_{2} (cat)} R^{2} - NH_{2}$$

$$R^{2} = \frac{R^{1} - CHO}{[RuCl_{2}(arene)]_{2} (cat)} N - R^{2}$$

$$Silane$$

$$Silane$$

$$9 \text{ examples}$$

$$63 - 85\% \text{ yields}$$

$$R^{1} = \text{Aryl-, Alkyl-, Heterocycles}$$

$$R^{2} = \text{Aryl-, Alkyl-}$$

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