Title:	One-step synthesis of 3-formyl-2-furylcarbinols and elaboration to unprecedented furotropones
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Abstract:	A general and unprecedented strategy for the synthesis of furo[2,3-d]tropone system via regioselective directed α-lithiation- alkylation and serendipitous base-promoted cyclization reaction, as key steps, has been developed. Directed α-lithiation of furan/thiophene-3- carboxaldehydes in their masked form and subsequent reaction with aldehydes efficiently provided in one-step, access to 3-formyl-2-furyl/ thiophenylcarbinols, which are otherwise only accessible with difficulty. The 3-formyl-2-furylcarbinols are further elaborated to the synthesis of furo[2,3-d]tropones (also known as cyclohepta[b]furan-6-ones or furotropones) in good yields via sequential bismuth(III)chloride-catalyzed furfurylation and a novel base promoted cyclization reaction. This paper describes the general approach to the synthesis of 3-formyl-2-furylcarbinols and furotropones which could find potential applications in the synthesis of several bioactive natural products and pharmaceutics.
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