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Convergent Synthesis of Fluorinated Dendrons Using the Mesylate Activation Route

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
Chemistry

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**Abstract:** In this paper we describe an alternative route for the preparation of dendrons bearing fluoro aryl functionalities at the periphery using mesylate activation. p-Fluorobenzyl bromide and perfluorobenzyl bromide were used to introduce the p-fluoro and perfluorobenzyl moieties at the periphery of dendrons. 3,5-Dihydroxybenzyl alcohol was used as the repeating unit of the dendrons. In this convergent approach, the Williamson ether synthesis technique was used as the generation enhancement step. Second generation mono- and perfluorobenzyl alcohol dendrons were obtained from active mesylate precursors. This mesylate activation method has the advantage of short reaction times in the subsequent steps and avoids chromatographic purification. Simple purification of these mesylate derivatives by crystallization is possible. Second generation dendrons were then built by repetition of the Williamson ether synthesis reaction of the mesylate derivatives, as described above. In this study it was shown that the mesylate activation route allows the preparation of second generation fluorinated dendrons with comparable yields to the bromide route, with reduced reaction times.

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