# Synthetic Study of Deuterium-labelled Aldehydes and Its Application

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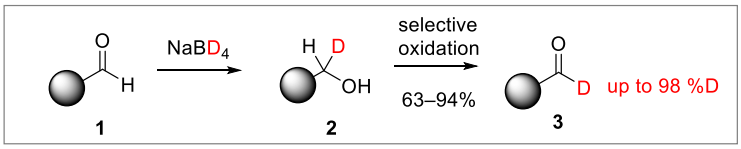
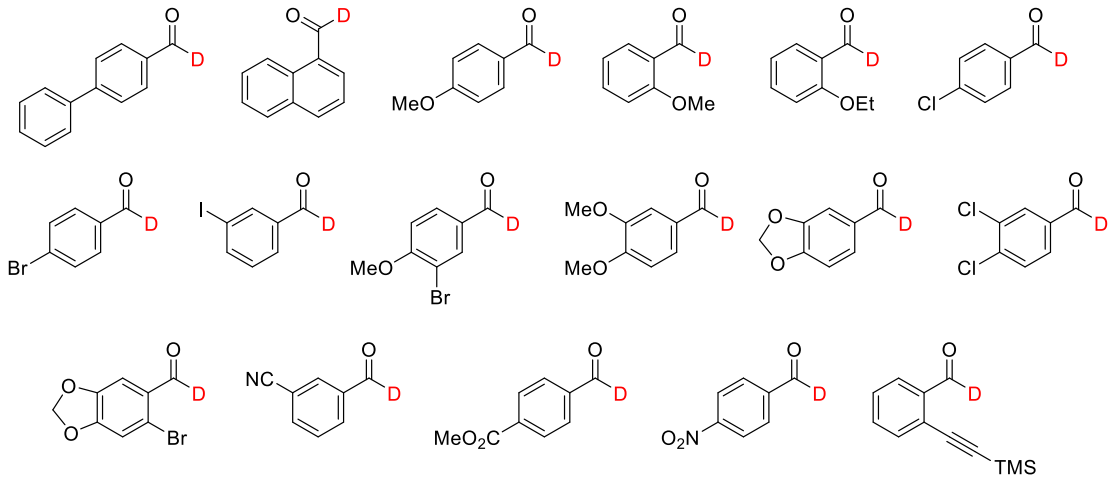
Deuterium-labelled molecules are widely utilized in analytical, organic, inorganic, and pharmaceutical studies.[1)] In the last CSJ annual meeting, we reported a facile synthesis of deuterium-labelled aldehydes from aldehydes by means of $NaBD_4$ reduction followed by oxidation.[2)] In this presentation, we would like to describe further synthetic scope. A wide range of deuterium-labelled aldehydes **3** were successfully prepared in two steps from **1** via **2**. Various functional groups such as halogen, nitro, ester, and alkyne are compatible under the conditions. The synthetic utility is demonstrated by the synthesis of geranylgeraniol-1-$d_2$.

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