

Approach to prepare selectively deuterated vinyl pyridines

Disclosure Number

201002484

Technology Summary

The invention relates to a method for converting 2- and 4-acetylpyridines to perdeuterated 2-vinylpyridine and 4-vinylpyridine. This research developed out of the need to synthesize 2-vinylpyridine-d7 as the building block (monomer) for many important amphiphilic polymers. The selective deuteration holds the key to understand the structure and dynamics of those polymers both in solution and in solid state through neutron scattering and diffractions. The method is comprised of several main steps. One step involves the synthesis of a compounds using particular catalysts in D2O under certain critical conditions. Subsequent steps involve the transformation of intermediate compounds to vinyl.

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