

One-pot Synthesis of cyclic analogues of hexamethylenebis(3-pyridine)amide (HMBPA)

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A series of cyclic analogues of hexamethylenebis(3-pyridine)amide was prepared based upon a Ugi-3CR and aza-Diels-Alder reaction as a post-functionalization in a one-pot process. A simple condensations of commercially available diamine and aldehydes followed by isonitrile α -addition provides the oxazoles intermediates, finally an aza-Diels-Alder cycloaddition and ring-opening using maleic anhydride provides the desired compounds in modest overall yield (12 examples, 6-69%) in approximately 40 min using microwaves as the heat source and scandium (III) triflate as a catalyst. The lecture will describe our efforts in achieving the construction of final compounds in a "one-pot" process.

