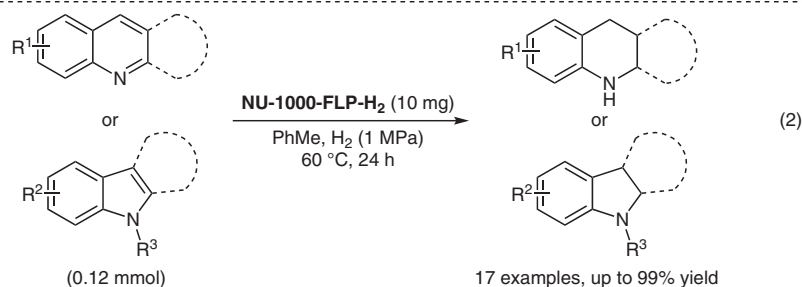
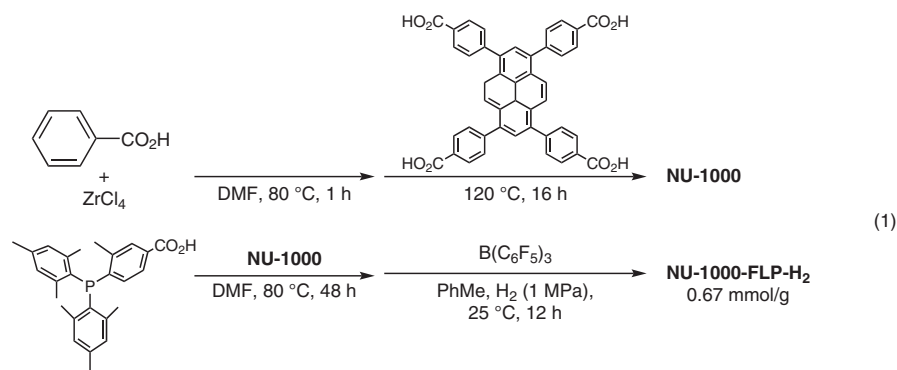
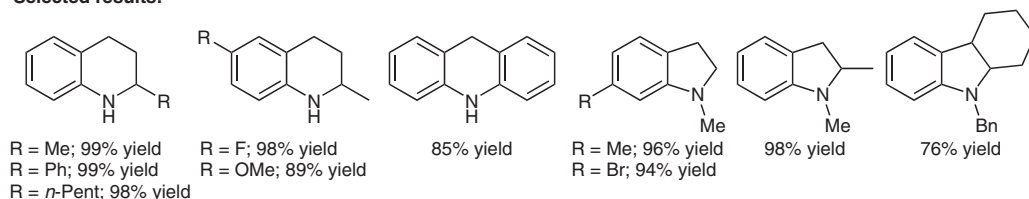


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## Hydrogenation of *N*-Heterocycles Using Frustrated Lewis Pairs Incorporated in NU-1000 MOF



### Selected results:



**Significance:** Phosphine-borane frustrated Lewis pairs incorporated in MOF (**NU-1000-FLP-H<sub>2</sub>**) were prepared by treatment 4-(dimesitylphosphanyl)-3-methylbenzoic acid with Zr-based MOF (**NU-1000**) followed by addition of B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> and reduction with H<sub>2</sub> (eq. 1). **NU-1000-FLP-H<sub>2</sub>** catalyzed the hydrogenation of quinolines and indoles with H<sub>2</sub> to give the corresponding tetrahydroquinolines and indolines in up to 99% yield (eq. 2).

**Comment:** **NU-1000-FLP-H<sub>2</sub>** was characterized by means of <sup>1</sup>H NMR, <sup>31</sup>P MAS NMR, FT-IR, SEM, TEM, HAADF-STEM, EDS, PXRD, XPS, TGA, N<sub>2</sub> isotherms, and elemental analyses. In the hydrogenation of 2-methylquinoline, the catalyst was recovered and reused four times without significant loss of its catalytic activity.