One-step synthesis of ethylferrocene in chloroaluminate ionic liquids

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A direct process for synthesis of ethylferrocene from ferrocene and ethyl bromide in chloroaluminate ionic liquids was described in this work. The chloroaluminate ionic liquids were used as solvents and catalysts for this Friedel–Crafts reaction, which could be effective catalyzed synthesis ethylferrocene by one-step procedure. In this catalytic system, the conversion of ferrocene was up to 80 % and the selectivity of ethylferrocene was 80 % at optimum conditions 60 °C, 3 Mpa, 6 h. One-step synthesis of ethylferrocene using chloroaluminate ionic liquids not only shortens the reaction route, but also avoids the use of harmful chemicals, therefore, this preparation method was expected to provide an effective strategy to progress of green synthesis technology for alkylferrocenes.