



Fig. 3. ^1H NMR analysis for pyridine of before (a) and after (b) LLE

4. CONCLUSION

In this study, we investigated the selectivity of a new type of deep eutectic solvent for the separation of nitrogen compounds from model fuel. DES2 was synthesized by mixing triethylammonium acetate as HBA and glycerol as HBD. The denitrification process was carried out at room temperature, and the results were compared between DES1a, DES1b, and DES2. From the obtained results, it is obvious that DES2 is more selective for all nitrogen components. In one hour of mixing, the maximum separation efficiencies of the indole and pyridine/quinoline mixture were 98% and 88%, respectively, by using DES2. High-efficiency separation for quinoline was 92% in three hours of mixing time. Pyridine was completely separated from model fuel at a single-stage LLE by DES1b and DES2. DES1a showed a lower selectivity capacity for the most of nitrogen components than DES1b and DES2.

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