Highlight

- The potential and new advances of deep eutectic solvent (DES) pretreatment methods (characteristics, mechanisms and applications) were studied.
- Factors affecting the efficiency of DES pretreatment to improve the sugar yield and final products were discussed.
- Value-added products formed from LCB from DESs derived streams were studied
- Novel innovations in each combined method with DES were analyzed
- Different types of DES showed significant results in removing lignin and recovering glucose based on various optimum conditions.
- There are still challenges to rectify through studies that are related to techno-economic and recyclability of DES to meet the cost and energy demands.

The more details and examples or highlight can be found at https://www.elsevier.com/authors/tools-and-resources/highlights