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Versatile acid base sustainable solvent for fast extraction of various molecular weight chitin from lobster shell

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Highlights:

- Acid base deep eutectic solvent for one pot extraction of chitin from lobster shell.

- Various molecular weight of chitins were obtained.

- The ability of deproteinization and depolymerization of DES was related to acid used.

- The calcium carbonate was converted to levulinic acid calcium.