Enhanced CO₂ Absorption Capacity Using Modified Ionic Liquid

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Carbon dioxide is the main greenhouse gas and its massive presence in the atmosphere have an impact on global climate change. The capture of carbon dioxide and subsequent storage may be a promising method to significantly reduce the carbon dioxide emissions. The development of economically viable carbon dioxide separation processes is a major role to reduce CCS cost. The development of a solvent that could absorb carbon dioxide while being non-volatile and non-corrosive and contribute to the process economy as well as production sustainability by lowering the solvent inventory and reducing the discharge of volatile chemicals to atmosphere is highly demanded. Owing to the draw backs of amine/ammonia solutions in chemical absorption method, ionic liquids are considered to be promising alternatives. The synthesis of a series of ionic liquids based on the imidazolium that contains additional functional group. This series of functionalized ionic liquid have been synthesized, characterized and applied in selective chemical separation of carbon dioxide.

※ 키워드: Ionic liquid, Carbon dioxide, Capture, Greenhouse gas
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