Capture And Utilization Of Carbon Dioxide With Polyethylene Glycol

In this volume, Professor He and his coworkers summarize polyethylene glycol (PEG)-promoted CO2 chemistry on the basis of understanding about phase behavior of PEG/CO2 system and reaction mechanism at molecular level. As PEG could be utilized as a green replacement for organic solvents, phase-transfer catalyst, surfactant, support in various reaction systems, significantly promoting catalytic activity and recovering expensive metal catalysts, particularly regarded as a CO2-philic material, the authors focus on special applications of PEG in CO2 capture and utilization, including PEG-functionalized catalysts for efficient transformation of CO2 and PEG-functionalized absorbents for efficient CO2 capture. Furthermore, they describe carbon capture and utilization strategy as an alternative approach to address the energy penalty problem in carbon capture and storage. Interestingly, the authors also discuss PEG radical chemistry in dense CO2 as rather creative and unusual use of PEG, presumably serves as a reaction medium and a radical initiator for radical chemistry. EAN/ISBN : 9783642312687 Publisher(s): Springer, Berlin Format: ePub/PDF Author(s): Yang, Zhen-Zhen - Song, Qing-Wen - He, Liang-Nian

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