

Effect of pretreatment on conversion of Silicon tetrachloride (STC) to trichlorosilane (TCS) over carbon catalysts

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In most of Silicon solar cells companies, researchers and R & D groups are recently devoted their researches for the reduction of Polysilicon production cost. Recycle process and polysilicon from trichlorosilane (TCS) are realized as alternative way to reduce the polysilicon production cost. In the present study, various pretreatments of ordered mesoporous carbon (OMC) catalyst were carried out in presence of O₂, steam, HCl, and NH₃ at 300°C for the high conversion of STC to TCS. It was found that the steam pretreated OMC catalyst at 300°C showed the higher conversion rate than those of the O₂, HCl and NH₃ pretreated OMC.