

Kolbe Schmitt Carboxylation on the Synthesis of 6-hydroxy-2-naphthoic acid

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Carbon dioxide has been the main concern for past decade among industrialized nations, as it is one of the main causes of greenhouse effect. The synthesis of 6-hydroxy-2-naphthoic acid (6.2-HNA) by the carboxylation of 2-naphthol with carbon dioxide has been investigated to examine the effects of reaction conditions, specifically drying and reaction temperature. The reaction undergoes the cation-exchange step on the 2-naphthol followed by carboxylation. It was demonstrated that the removal of water remaining in the ion-exchange step could enhance the reactivity with better yield and selectivity for 6.2-HNA. Moreover, it was found that the drying condition conducted at even lower temperature and pressure was beneficial to suppress the formation of undesirable side products.