

## Preparation of 2,6-Naphthalenedicarboxilate for Polyethylene naphthalene(PEN) resin

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2,6-Naphthalenedicarboxilate is the monomer for PEN resin. For economical synthesis, naphthalene can be used for synthesis of PEN. In the three step for PEN synthesis, 2,6-frame body is the key material because that process is difficult to develop for industrial scale. Each main reaction has specific features. Usually alkylation such as methylation, isopropylation is performed for producing 2,6-dimethylnaphthalene (2,6-DMN) or 2,6-diisopropylnaphthalene(2,6-DIPN). The methylation is very simple step and the production is suitable for oxidation to 2,6-naphthalenedicarboxil acid. 2,6-DMN has 10 isomers and there are no differences between boiling points. Therefore catalyst's shape selectivity is very important. For that, zeolite is concerned compatible catalyst for these reactions. The isopropylation performance in research is better than other reactions. We did the screening test with commercial zeolite(USY, Beta, MOR) in two reactions. In the result, MOR show poor conversion though good selectivity. We modified USY and Beta except MOR with several methods such as steaming, dealumination with acid, metal loading. Steaming method is better than dealumination with acid. USY and beta show the low conversion with dealumination method. Also Ce impregnation improve the conversion and stability.