

Molecular Weight Distributions and Components of Heat Reformed Naphtha Cracking Bottom Oil Extracts

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Naphtha Cracking Bottom (NCB) oil was heat reformed at various reforming temperature and time, and the volatile extracts were characterized including yields, molecular weight distributions, and representative compounds. The yield of extract increased as the increase of reforming temperature(360–420°C) and time(1–4hr). Molecular weight of the as-received NCB oil was under 370 mass, and those of extracts were distributed in the range of 200–320 mass, and far smaller than those of precursor pitches in 380–550. As GC–ms results, it was almost found out aromatic compounds in extract. Representative compounds in extracts were naphthalene, styrene, indene, biphenyl, acenaphthene, flourene and phenanthrene. Most of compounds were isomers of compounds bonding functional groups, such as methyl(CH₃-) and ethyl(C₂H₅-). Especially, main naphthalene existed in every extract.