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重氮萘酮在环醚中热解反应研究

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摘要　三种带有不同取代基的重氮萘酮(la～1c)在THF和二氧六环中加热分解给出不同的产物。1-重氮-4-萘酮(1a)的热解产物主要是重氮萘酮热解后产生的烯酮卡宾(2a)与环醚开环后形成的聚合物；3-甲基-1-重氮-4-萘酮(1b)的热解产物比较复杂，除冠醚类产物之外，还有烯酮卡宾对四氢呋喃和二氧六环的C-H键的插入反应产物、螺环化合物、2-甲基萘酚以及难以分离的聚合物；3-硝基-1-重氮-4-萘酮(1c)的热解产物主要是聚合物，此外还有少量C－H键的插入反应产物和2-硝基萘酚。对重氮萘酮热解反应的机理作了讨论。

关键词　萘酮P　环醚　重氮化合物　热解　烯酮P　卡宾　重氮酮　反应机理

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Thermolysis of 1,4-diazonaphthones in cyclic ethers

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Abstract　1,4-Diazonaphthone, 3-methyl-1,4-diazonaphthone and 3-nitro-1,4- diazonaphthone were pyrolyzed in THF and dioxane to give different products. Spiro[naphthalene-1(4H), 2'-pyran]-4-one-3',4',5',6'- terhydro (5), 2-methyl-4-(2'-tetrahydrofuranyl)naphthol (6), 2-methyl- naphthol (7) and 1:1 polymer were produced in pyrol ysis of 3-methyl-1, 4-diazonaphthone in THF; Bis[(2-methyl-1,4-naphthylene)-22- crown-6] (8), spiro[1',4'-dioxepane-7',1(4H)-naphthalene-4- one] (9), 2-methyl- 4-(2'-dioxanyl)naphthol (10), 2-methyl- naphthol (7) and 1:1 polymer were produced in pyrolysis of 3-methyl-1,4-diazonaphthone in dioxane, Only 1:1 polymers were obtained in pyrolysis of 1,4-diazonaphthone in both THF and dioxane, 3-Nitro-1,4-diazonaphthone gave 2-nitro-4- (2'- tetrahydrofuranyl)naphthol (11), 2-nitro-naphthol (12) besides 1:1 polyme in THF. The reaction mechanism is discussed.

Key words　NAPHTHALENONE P　CYCLIC ETHER　DIAZO COMPOUNDS　THERMOLYSIS　KENONE P　DIAZOKETONE　REACTION MECHANISM

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