

TETRAALKYLAMMONIUM SALTS OF 4,5-DISUBSTITUTED NAPHTHALIMIDES

N. Fedko, M. Shevchenko, V. Veduta, D. Laskorunska

I. I. Mechnikov Odessa National University

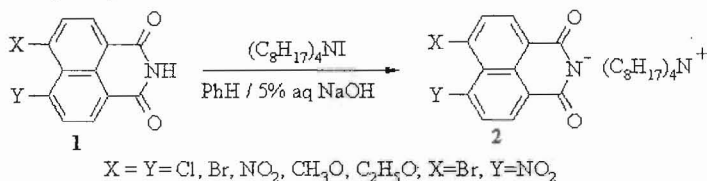
Dvorjanskaya st., 2, 65026, Odessa, Ukraine

e-mail: fedko@onu.edu.ua

The main method of synthesis of *N*-alkylnaphthalimides is acylation of primary amines by naphthalic anhydrides. However, the low solubility of 4,5-dihalogeno- and dinitrosubstituted naphthalic anhydrides in organic solvents requires a rather harsh conditions for acylation reaction, which makes impossible preventing the competitive process of nucleophilic substitution in the aromatic ring.

It is shown that the tetraalkylammonium salts of disubstituted naphthalimides are effective donors of 4,5-disubstituted naphthalimide moiety in low polar solvents at mild conditions.

Due to the high resistance of naphthalimide ring system, the tetraalkylammonium salts of naphthalimides **2** can be prepared at ambient temperature by anion exchange in two phase system "benzene – 5% aqueous NaOH" followed by extraction of target salts into organic phase.



Naphthalimide salts **2** are the colorless crystalline substances that keep their ionic structure up to 115–125 °C, soluble in nonpolar and polar aprotic solvents.

The substances **2** were converted into *N*-octylnaphthalimides (**3**) by reaction with octylbromide in benzene at 40 °C over 25–45 min with nearly quantitative yields of target products.

