

SYNTHESIS AND REACTIONS OF 3- (O-METHOXYPHENOXY) -2-HYDROXYPROPYL CHLORIDE

Zhanaliyeva R.N.,^a Torsykbayeva B.B.^b

^aThe Miras University, ul. Ilyayeva 3, Shymkent, Turkestan region, 160012, Kazakhstan,
 e-mail: rashida_zhanalie@mail.ru

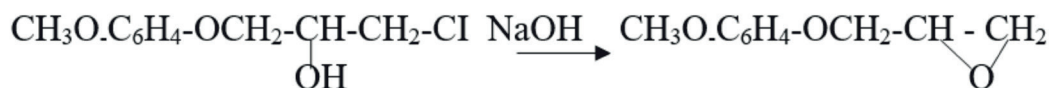
^bThe Astana Medical University, ul. Beibitshilik 49a, Astana 010000 Kazakhstan,
 e-mail: Maha-1505@mail.ru

There was a study of interaction of o-methoxyphenol with epichlorhydrin. The yield of the product - 3- (o-methoxyphenoxy) -2-hydroxypropyl chloride with the use of BF₃ catalyst is 32%, and pyridine - 57%. In the IR spectrum of this compound, the hydroxyl group absorbs in the region of 3400-3500 cm⁻¹, and the C-Cl bond in the region of 750-780 cm⁻¹.

The acylation reaction with 3- (o-methoxyphenoxy) -2-hydroxypropyl chloride with acetic acid gives 3- (o-methoxyphenoxy) -2-acetoxypropyl chloride.



In the IR spectrum of this compound, the absorption band of the OH group at 3400–3500 cm⁻¹ for the starting compound disappears and the absorption band at 1740–1745 cm⁻¹, characteristic of the carbonyl group, appears. When treating 3- (o-methoxyphenoxy) -2-hydroxypropyl chloride with alkali in dry sulfuric ether, it is converted to 3- (o-methoxyphenoxy) -1,2-epoxypropane.



The absorption bands of the aromatic ring of this compound in the IR spectrum are observed in the region of 1580-1600 cm⁻¹. In the PMR spectrum, proton signals were detected at 6.72 ppm. (protons of aromatic ring, 4H, s.), 3.75 ppm (OCH₃, 3H, s.), 2.70 ppm (CH₂, 2H, m.).

Reference

1. Жаналиева Р.Н. . Химические превращения 2-(2¹-гидроксиэтокси)- этил и 3-(о-метокси-фенокси)- 2-гидроксипропилхлоридов. Диссертация на соискание степени кандидата химических наук, Ташкент, 1994
2. Zhanaliyeva R. N. Diethylene Glycol Chlorohydrine Acylation Reactions [Reaktsii atsilyrovaniya khlorogidrina dietilenglikolya]. Collection of Abstracts of Reports of XX Mendeleev Congress on General and Applied Chemistry. Russia, 2016.
3. Zhanaliyeva R. N. Nucleophilic Substitution of Chlorine Atom of 2-(2¹- acyloxy-ethoxy) Ethylchlorides. Nauka i mir. Mezhdunarodnyy nauchnyy zhurnal (Science and world. International scientific journal). 2017.