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Synthesis and structural characteristics of tris(2-hydroxyethyl)ammonium maleate

© Sergey V. Loginov,¹ Dmitry A. Gordeev,¹ Igor A. Dain,¹ and Evgeny N. Ofitserov^{2*+} ¹ SRCHTEOC. Enthusiasts Highway, 38. Moscow 111123. Russia. E-mail: florasilik@yandex.ru ² Russian Chemical-Technological University Named after D.I. Mendeleev. Miusskava Sq., 9. Moscow, 125047. Russia. Phone: +7 (495) 978-32-61. E-mail: ofitser@mail.ru

*Supervising author; ⁺Corresponding author

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Abstract

Crystalline protatranic structure features of triethanolamine and maleic acid salt were studied. Crystallinestructure of tris(2-hydroxyethyl)ammonium maleate was detected (a = 5.5882(6) Å, b =10.4152(13) Å, c = 12.2523(17)Å; $a = 68.284(10)^\circ$, $\beta = 85.301(10)^\circ$, $\gamma = 82.432(10)^\circ$; Z = 2, group P-1). Crystallinestructuralsubunits - pseudocyclicacidic maleate anion, protatranictris(2-hydroxyethyl)ammonium cation– form the chair structure, stabilized by hydrogen bonds system, electrostatic and π -minteractions.

There was shown the impact of direct electrostatic interactions and anion structure on protatranic structure stabilization and monosubstituted product formation for maleic acid triethanolammonium salt.