

## ABSTRAK

Sandhy Handoko, 2005. *Pengaruh Lama Pemanasan Terhadap Persentase Hasil Sintesis Etil Butirat*. Skripsi, Laboratorium Kimia Farmasi Fakultas Farmasi Universitas Surabaya, Surabaya. Pembimbing : (I) Drs. Harry Santosa MSi., Apt., (II) Ir. Sri Soeyani.

**Kata Kunci :** esterifikasi, lama pemanasan, etil butirat.

Telah dilakukan sintesis etil butirat melalui reaksi esterifikasi dari asam butirat (0,2 mol) dan etanol (0,6 mol) dengan menggunakan katalis asam sulfat pekat dengan lama pemanasan yang berbeda yaitu 1 jam; 1,5 jam; dan 2 jam. Dari percobaan diperoleh hasil dari lama pemanasan 1 jam; 1,5 jam; dan 2 jam berturut-turut yaitu 17,36%; 25,26%; dan 14,07% etil butirat. Pemeriksaan hasil sintesis meliputi titik didih diperoleh  $119^{\circ} - 121^{\circ}\text{C}$ ,  $d_{20}^{20} = 0,889$ ,  $n_D^{20} = 1,3936$ . Pemeriksaan spektroskopi inframerah diperoleh gugus C–O ulur ( $1186,33\text{ cm}^{-1}$ ), C=O ulur ( $1738,02\text{ cm}^{-1}$ ), C–H ulur ( $2970,64\text{ cm}^{-1}$ ). Pemeriksaan spektroskopi  $^1\text{H}$ RMI dalam pelarut  $\text{CDCl}_3$  diperoleh  $\delta = 0,853-1,011\text{ ppm}$  (3H triplet),  $\delta = 1,158-1,316\text{ ppm}$  (3H triplet),  $\delta = 1,441-1,841\text{ ppm}$  (2H sektet),  $\delta = 2,183-2,342\text{ ppm}$  (2H triplet) dan  $\delta = 3,994-4,233\text{ ppm}$  (2H kuartet). Pemeriksaan dengan KLT tidak memberikan hasil.

---

Ethyl butyrate synthesis has been accomplished by esterification from butyric acids (0,2 mol) and ethanol (0,6 mol) using concentrated sulfuric acids as catalyst with various heating duration for 1 hour; 1.5 hours; and 2 hours. The results of heating duration for 1 hour; 1.5 hours; and 2 hours were respectively 17,36%; 25,26%; and 14,07% ethyl butyrate. Examination on synthesis yield included boiling point derived  $119^{\circ}-121^{\circ}\text{C}$ ,  $d_{20}^{20} = 0,889$ ,  $n_D^{20} = 1,3936$ . Infrared spectroscopic examination derived C–O stretch ( $1186,33\text{ cm}^{-1}$ ), C=O stretch ( $1738,02\text{ cm}^{-1}$ ), C–H stretch ( $2970,64\text{ cm}^{-1}$ ).  $^1\text{H}$ RMI spectroscopic examination in  $\text{CDCl}_3$  solvent derived  $\delta = 0,853-1,011\text{ ppm}$  (3H triplet),  $\delta = 1,158-1,316\text{ ppm}$  (3H triplet),  $\delta = 1,441-1,841\text{ ppm}$  (2H sextet),  $\delta = 2,183-2,342\text{ ppm}$  (2H triplet) dan  $\delta = 3,994-4,233\text{ ppm}$  (2H quartet). Thin Layer Chromatography examination does not give the results.