

MODIFIKASI PROSEDUR PENAMBAHAN ASAM SALISILAT PADA SINTESIS SALISILANILID

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ABSTRAK

Sintesis salisilanilid dilakukan melalui reaksi substitusi nukleofilik bimolekular (S_N^2) dengan bahan awal asam salisilat dan anilin. Sintesis dilakukan dengan menggunakan modifikasi prosedur sintesis benzanilid dan modifikasi prosedur penambahan asam salisilat pada sintesis salisilanilid. Senyawa salisilanilid hasil sintesis berupa kristal berwarna merah muda pucat. Pada modifikasi prosedur sintesis benzanilid didapatkan persentase hasil sebesar 4,64% dan pada modifikasi prosedur penambahan asam salisilat sebesar 5,59%. Hasil titik leleh adalah 133-134 °C, hasil KLT dengan fase gerak etil asetat dan asam asetat glasial (19 : 1) menghasilkan $R_f = 0,77$ dan dengan etil asetat dan asam asetat glasial (9 : 1) menghasilkan $R_f = 0,92$, hasil spektroskopi UV-VIS adalah 270,0 nm (puncak I) dan 239,2 nm (puncak II). Karakterisasi spektroskopi infra merah menunjukkan puncak-puncak spesifik gugus fungsi pada senyawa salisilanilid. Karakterisasi dengan 1H RMI menunjukkan jumlah atom H yang sama dengan rumus molekul senyawa salisilanilid. Berdasarkan hasil penelitian didapatkan bahwa sintesis salisilanilid dengan modifikasi prosedur penambahan asam salisilat diperoleh persentase hasil yang lebih tinggi dibandingkan dengan modifikasi prosedur sintesis benzanilid.

Kata kunci : sintesis, salisilanilid, substitusi nukleofilik.

Synthesis of salicylanilide was conducted by bimolecularr nucleophilic substitution reaction (S_N^2) from salicylic acid and aniline. Synthesis has been done using the modification of benzanilide method and the modification method with the addition of salicylic acid. The result of this synthesis, salicylanilide is white almost pink crystal. The result from the modification of benzanilide method was 4,64 % and from modification method with the addition of salicylic acid was 5,59 %. The melting point was 133-134 °C, the result of TLC with eluen ethyl acetate and glacial acetic acid (19:1) was $R_f = 0,77$, with eluen ethyl acetate and glacial acetic acid (9:1) was $R_f = 0,92$, the result of UV spectroscopy was 270,0 nm (peak I) and 239,2 nm (peak II). Identification with infrared spectroscopy showed the specific peaks for salicylanilide. Characterization with 1H NMR showed the existence of protons which amount is equivalent with the protons of salicylanilide based on the result. Based on the research, the modification method with the addition of salicylic acid was higher than the modification of benzanilide method.

Key Word : synthesis, salicylanilide, nucleophilic substitution.