

Summary

The parent substance of derritol, 2,2'-dihydroxydesoxybenzoin, was synthesized through the following steps: salicylaldehyde methoxymethyl ether \rightarrow 2,2'-dimethoxymethyl ether benzoin \rightarrow 2,2'-dihydroxybenzoin \rightarrow 2,2'-dihydroxydesoxybenzoin.

Anhydrodihydroxydesoxybenzoin was prepared from this 2,2'-dihydroxydesoxy compound.

The analog of dehydrorotenone, α -benzopyrano- γ -benzopyrone, was obtained by the action of ethyl bromoacetate on the disodium compound of 2,2'-dihydroxydesoxybenzoin.

Hydrolysis of the α -benzopyrano- γ -benzopyrone with alkali gave 2-carbomethoxy-2'-hydroxydesoxybenzoin, the analog of derric acid.

The analog of rotenonone, α -benzopyrono- γ -benzopyrone, was obtained by the action of chlorooxalyl ethyl ester on 2,2'-dihydroxydesoxybenzoin.

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Notes

The Synthesis of Isomeric Unsymmetrical Benzoin

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A convenient method, where applicable, for the synthesis of the isomeric unsymmetrical benzoin is to start from the corresponding desoxybenzoin. The method is well illustrated in the preparation of *p*-methoxy- α -hydroxybenzyl phenyl ketone (anisbenzoin). To a solution of *p*-methoxybenzyl phenyl ketone in carbon tetrachloride is added a molar equivalent of bromine dissolved in the same solvent. The mixture is exposed to the rays of a 500-watt tungsten lamp for about five minutes. The solvent is evaporated under reduced pressure, the remaining desyl bromide is dissolved in a small amount of absolute alcohol and two or three equivalents of sodium ethylate are then added. The mixture is shaken until no more sodium bromide is precipitated and then poured into an excess of dilute hydrochloric acid. The benzoin is separated and recrystallized from dilute alcohol; yield 65%, m. p. 89°. When mixed with benzanisoin the melting point was lowered 7-10°.

Anisbenzoin readily rearranges in the presence of alcoholic potassium cyanide to benzanisoin; yields of 60 to 70% were obtained [Jenkins, THIS JOURNAL, 53, 3117 (1931). The study of their rearrangement is being continued].

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