

OIL SHALE RESORCINOLS – EFFECTIVE REAGENTS FOR NITRITE. AN ALGORITHM FOR THE INFLUENCE OF pH ON OPTICAL DENSITY

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The theoretical basis is presented for testing nitrite with alkylresorcinols, the main water-soluble phenolic compounds of oil shale origin. An algorithm is deduced to describe the joint effect of pH and concentration of the reagents on the optical density (E). Acidic dissociation of the nitrosation products of 5-methylresorcinol and of the cobalt and iron (II) nitroso-5-methyl resorcinolate complexes is studied. Formation of a colloidal suspension is considered. The effect of pH on the contributions to E of the five coloured species formed is described. Acidic dissociation constants, molar extinction coefficients, stability constants, and solubility products of the species formed are estimated.