

ENTHALPY OF FORMATION OF 1-NITRONAPHTHALENE

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Abstract: On the basis of the enthalpy of formation in the gas phase of a number of naphthalene derivatives, the enthalpy of formation of naftyl-1 radical is determined by the double difference method. Using this value, the enthalpy of 1-nitronaphthalene formation of 133 kJ/mol in gas phase is determined. This value differs significantly from the data available in the literature (111.2 and 145.0 kJ/mol). The obtained values allow estimating the dissociation energy of the C–NO₂ bond in 1-nitronaphthalene and to comparing it with the dissociation energy of the bond in nitrobenzene.

Keywords: double difference method; enthalpy of formation; dissociation energies of bonds; aromatic compounds

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