

Content

Introduction	1
Goals	2
1. Performed Spectroscopic Studies	3
1.1. <i>Analysis of FCO₂ Radical Infrared Spectrum</i>	3
1.1.1. Chemistry of the FCO ₂ [•] Radical.....	5
1.1.2. The ν_4 Asymmetrical Vibration Bands Measured in the 1040 – 1130 cm ⁻¹ Spectral Region ..	6
1.1.3. The ν_2 Symmetrical Vibration Band Measured in the 600–1400 cm ⁻¹ Spectral Region	7
1.1.4. Partial Results and Discussions	8
1.2. <i>The First High Definition Spectroscopic Study of the Rotational Spectrum of CS⁺ Cation Radical</i> ..	11
1.2.1. Experimental Work	12
1.2.2. Partial Results and Discussion	13
1.3. <i>Study of Decomposition of Toxic Substances Acetonitrile and Cyanogen Bromide</i>	15
1.3.1. Experimental Work	16
1.3.2. Partial Results and Discussion	16
1.4. <i>Ammonia Studies</i>	20
1.4.1. Ammonia	20
1.4.2. Influence of Conifers on the Emitted Amount of Ammonia	21
1.4.3. Construction of experimental setup.....	23
1.4.4. Design and Construction of a Optoacoustic cell	24
1.1.1. Partial Results	27
2. Conclusion	28
References	30
List of own publications	33