Supervisor review

V.A. Vorozhtcov began doing the graduate qualification work only one and a half years ago. Despite this fact his wide scientific horizons, deep knowledge in different areas of modern chemistry, inexhaustible interest in the work and permanent desire to reach as high results as possible enabled V.A. Vorozhtcov in a limited period of time to get acquainted with and to carry out successfully the work by the laborious and difficult in experimental design method of high temperature mass spectrometry. V.A. Vorozhtcov obtained a significant amount of experimental data concerning vaporization processes and thermodynamic properties of glass-forming melts in the Bi2O3-P2O5-SiO2 system by the mass spectrometric Knudsen effusion method as well as made thermodynamic calculations for interpretation of the values found.

During the discussion of the work results necessity of carrying out additional experimental investigations by means of differential thermal analysis, viscosimetry, electron probe microanalysis and X-ray phase analysis emerged. Not only did V.A. Vorozhtcov get acquainted with the methods mentioned but he also took part in the analysis of the data obtained.

A good knowledge of English enabled V.A. Vorozhtcov to study both domestic and international scientific publications on the issue of the graduate qualification work. This resulted in a thorough analysis of papers cited in the literature review and in mutual high quality discussions concerning results obtained.

The total amount of text matches in the V.A. Vorozhtcov’s graduate qualification work equals 8 %.

V.A. Vorozhtcov is characterized by the high scientific qualification proved by excellent marks for the studying period in the Institute of Chemistry.

Bearing in mind mentioned facts I consider diligent, painstaking, thorough and highly organized attitude of V.A. Vorozhtcov towards conduct of the graduate qualification work as deserving the highest praise.

According to supervisor’s opinion the level of preparation and completion of the work considered meets all the requirements for bachelor graduate qualification works and deserves ‘excellent’ mark and V.A. Vorozhtcov deserves being awarded bachelor's academic degree.

Supervisor

Corresponding member of RAS, Professor, Doctor of Chemistry

V.L. Stolyarova