

Supplementary Materials

Nanoscale Composite Protective Preparation for Cars Paint and Varnish Coatings

Andrey Vladimirovich Blinov ¹, **Andrey Ashotovich Nagdalian** ^{1,2,*}, **Lyudmila Pavlovna Arefeva** ³,
Valery Nikolaevich Varavka ³, **Oleg Vyacheslavovich Kudryakov** ³, **Alexey Alekseevich Gvozdenko** ¹,
Alexey Borisovich Golik ¹, **Anastasiya Aleksandrovna Blinova** ¹, **David Guramievich Maglakelidze** ¹,
Dionis Demokritovich Filippov ¹, **Vyacheslav Anatolievich Lapin** ^{1,4}, **Ekaterina Dmitrievna Nazaretova** ⁵
and **Mohammad Ali Shariati** ⁶

¹ Department of Physics and Technology of Nanostructures and Materials,
North Caucasus Federal University, 355017 Stavropol, Russia

² Saint Petersburg State Agrarian University, 196601 Saint Petersburg, Russia

³ Don State Technical University, 344000 Rostov-on-Don, Russia

⁴ Federal Research Centre the Southern Scientific Centre of the Russian Academy of Sciences,
344006 Rostov-on-Don, Russia

⁵ Specialized Educational Research Center, North Caucasus Federal University, 355017 Stavropol, Russia

⁶ Department of Scientific Research, K.G. Razumovsky Moscow State University of Technologies and
Management (The First Cossack University), 109004 Moscow, Russia

* Correspondence: geniando@yandex.ru

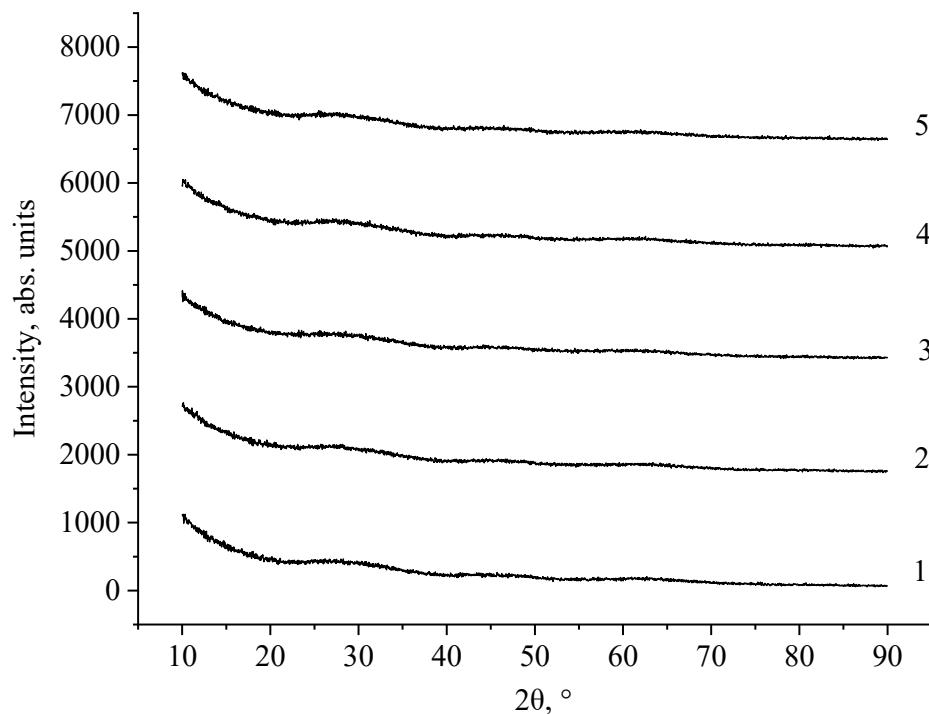


Figure S1. Diffractograms of $\text{TiO}_2\text{-ZrO}_2$ nanocomposite samples: 1—0.1% ZrO_2 , 2—0.5% ZrO_2 , 3—1% ZrO_2 , 4—2% ZrO_2 , 5—3% ZrO_2 .

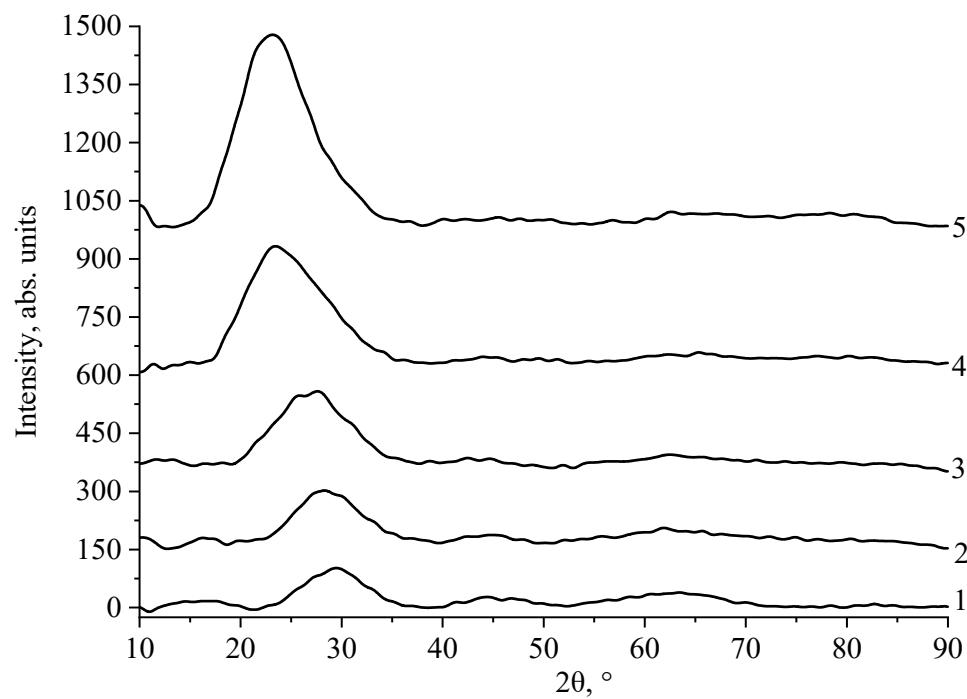


Figure S2. Diffractograms of $\text{SiO}_2\text{-TiO}_2$ nanocomposite samples: 1—10% SiO_2 and 90% TiO_2 ; 2—30% SiO_2 and 70% TiO_2 ; 3—50% SiO_2 and 50% TiO_2 ; 4—70% SiO_2 and 30% TiO_2 ; 5—90% SiO_2 and 10% TiO_2 .

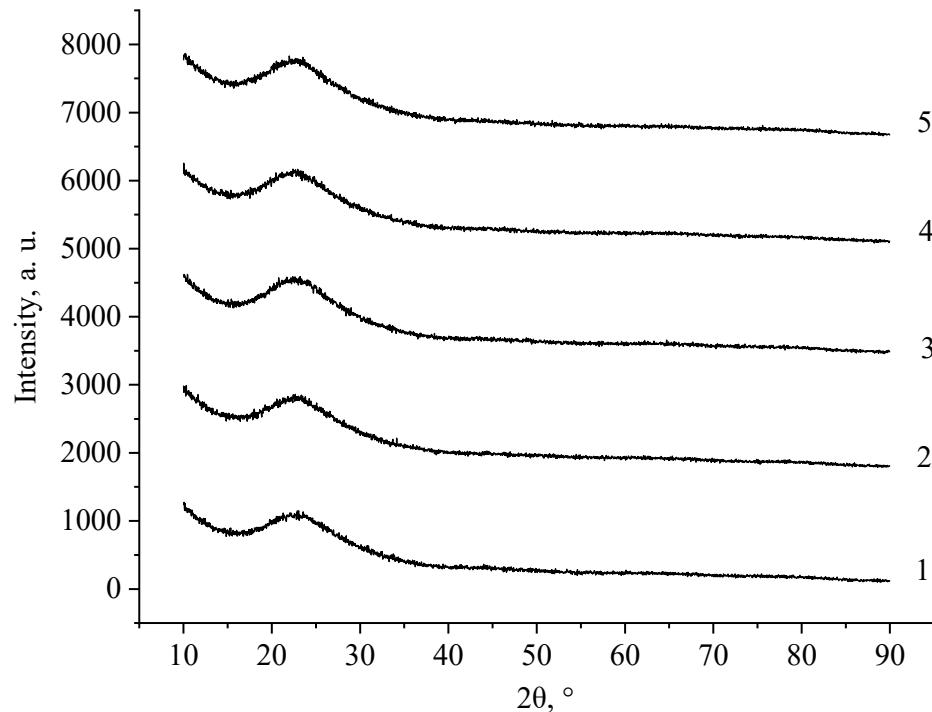


Figure S3. Diffractograms of $\text{SiO}_2\text{-TiO}_2\text{-ZrO}_2$ nanocomposite samples: 1—0.1% ZrO_2 and 9.9% TiO_2 ; 2—0.5% ZrO_2 and 9.5% TiO_2 ; 3—1% ZrO_2 and 9% TiO_2 ; 4—2% ZrO_2 and 8% TiO_2 ; 5—3% ZrO_2 and 7% TiO_2 .

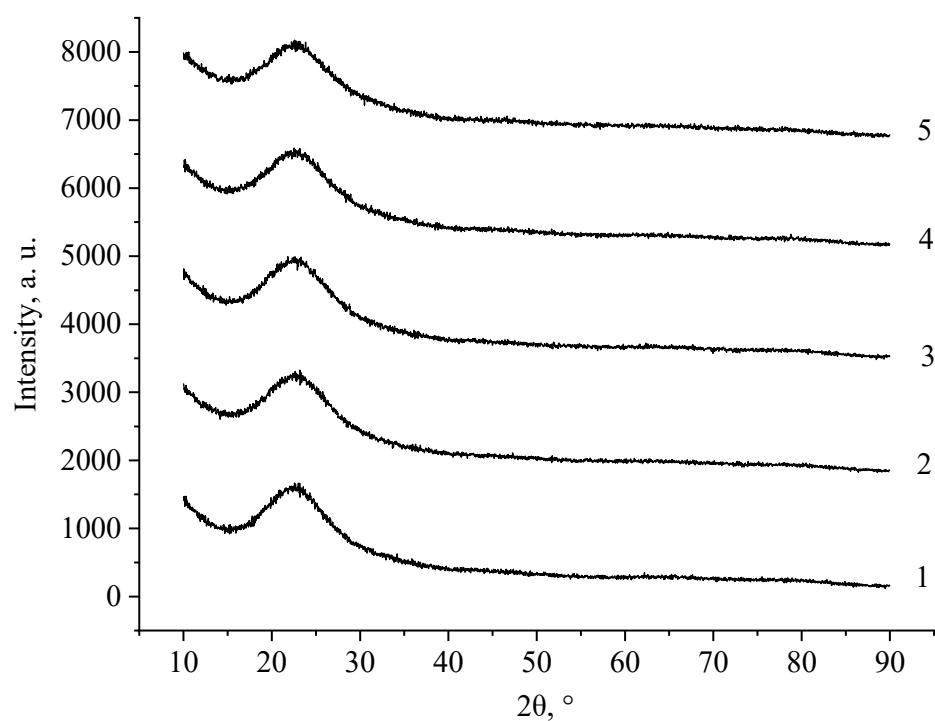


Figure S4. Diffractograms of SiO₂-ZrO₂ nanocomposite samples: 1—0.1% ZrO₂, 2—0.5% ZrO₂, 3—1% ZrO₂, 4—2% ZrO₂, 5—3% ZrO₂.