

CEEC-TAC6 & Medicta2021

**BOOK
OF
ABSTRACTS**

Editors:

Andrei Rotaru

Matko Erceg



**6th Central and Eastern European Conference on
Thermal Analysis and Calorimetry
&
15th Mediterranean Conference on
Calorimetry and Thermal Analysis**

**20-24 July 2021
Split, Croatia**

Book of abstracts of the 6th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC6) and 15th Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2021).

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Organizers

**The 6th Central and Eastern European Conference
on Thermal Analysis and Calorimetry**

&

**The 15th Mediterranean Conference on
Calorimetry and Thermal Analysis**

CEEC-TAC6 & Medicta2021

20-24 July 2021 – Split, Croatia

is organized by the:

**Central and Eastern European Committee for
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**Committee for Thermal Analysis & Calorimetry of the
Croatian Society of Chemical Engineers (HDKIT),**

University of Split (Sveuceliste u Splitu),

Faculty of Chemistry and Technology (KTF) of the University of Split,

University of Craiova (UCv),

**Institute of Physical Chemistry "Ilie G. Murgulescu" (ICF)
of the Romanian Academy**



Influence of BaTiO₃/Fe₂O₃ addition on crystallization and polymorphism of PDVF polymer matrix followed by DSC-TG

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Ceramic/polymer dielectric composites are widely used as components for electric devices, mainly because of their high chemical stability, mechanical strength, and flexibility. In order to increase dielectric permittivity, ceramic fillers with high dielectric constant have been usually incorporated in the polymer matrix in large amounts. With the aim to enhance dielectric properties of matrix, 5 wt.% of BaTiO₃/Fe₂O₃ core/shell composite was added into the PVDF matrix. Prior to addition, five BaTiO₃/Fe₂O₃ powders were prepared by different synthesis conditions. The changes in crystal structure and lattice dynamics of the obtained ceramic/polymer composite were correlated with changes in the phase composition and morphology of BaTiO₃/Fe₂O₃ core/shell filler. Thermal analysis such as DTA/TG/DSC are useful methods to determine various parameters in ceramic/polymer composites. We were able to corroborate that differences in phase composition and morphology of BaTiO₃/Fe₂O₃ core/shell filler have influence on formation of various PVDF allomorph modification, as well as a level of crystallinity.

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