

The authors report on synthesis a liquid crystalline material showing mechanochromic luminescence properties. In particular they demonstrate that thin films subjected to directional mechanical grinding change both the color and polarization state of the luminescence.

The synthesized material properties and their change upon mechanical treatment do look interesting. However, the "Results and discussion" section needs significant improvements before the manuscript can be considered for publication.

1. Despite the term "Liquid crystalline" is a part of the manuscript title, the liquid crystal phase description is very scanty. The temperature range of the liquid crystal phase is not indicated in the manuscript. A reader can only guess from thermogram (Fig.2) that LC phase is above 220 oC. The properties of the liquid crystal phase also absent. If above 220 oC there is a chiral LC phase then what is the natural pitch of chiral helix and chirality sign? Does the selective reflection exist in the visible spectral range? What is the optical anisotropy of the material in LC phase (difference of the principal refractive indices)? What is a role of the liquid crystalline phase in the described phenomenon of the "directional blue-shifting mechanofluorochromic" luminescence?. What is the temperature range for the "directional blue-shifting mechanofluorochromic" luminescence, and how the liquid crystalline properties influence on mechanofluorochromic luminescence, especially on account the LC phase exists only at rather high temperatures?

2. The measured samples are not described properly. For example, it remains unclear what kind of mechanical grinding was used in samples for data in Fig.3. What is characteristic size of the powder particles after grinding and how it compares with the case of no grinding? How the samples were prepared, and what was the thickness of the films. Is the film thickness influencing the luminescence spectrum? What kind of substrates were used for spin coating the films. The authors often use terms like "initial substrate", "ground substrate", "annealed and post-grinding substrate" without any description of meaning these terms. I would like to underline that usually the term "substrate" is not the same as the spin coated film (often "substrate" is just a glass plate or a rather thick polymer film used for spin coating a film). Thus it is really difficult to understand what the authors are talking about.

3. In case of the directional grinding the mechanical changes of the film remain unclear. What about the film thickness at grinding place - was it changed? Because of the polarized luminescence the question on a birefringence at grinding place arises.

4. The authors describe the photoluminescence as "...a high photoelectron intensity", which is unacceptable. The photoelectrons are just free electrons which appear as a result of interaction with light (with photons). There are no data showing "photoelectron intensity" in the manuscript, because the photoelectric properties were not measured. There can't be "polarization direction of the photoelectrons". In frame of the work subject, it is correct to speak on orientation of molecular oscillators, electron states, electron transitions and emitted light polarization.

5. The presented measured data are badly organized into a logical sequence that doesn't allow for understanding or interpretation the described phenomenon in terms of these data.