

**Polymers Subcommittee Meeting Minutes**  
**Wednesday, 14 March 2018**  
**International Centre Headquarters**  
**Conference Room D**  
**1:00p.m.–2:00p.m.**  
**L. Liu, Chairman**

1. Call to Order and Opening Remarks L. Liu
2. Appointment of Minutes Secretary S. Jennings
3. Roll Call and Attendance

Attendance sheet is on file at ICDD Headquarters.

4. Review of Mission Statement

Enable the polymer scattering/diffraction community to make the best use of diffraction/scattering data for analyzing polymeric materials. This includes producing databases, promoting best practices for data analysis, campaigning the national laboratories and instrument manufacturers for polymer-friendly instrumentation and software, and educating the diffraction community about issues that have a special impact on polymer characterization, and the polymer community on the significance of careful and thorough evaluation of the diffraction data.

5. Approval of the 2017 Meeting Minutes

Jeff Deschamps approved and Jim Kaduk seconded.

6. Report of Board Liaison J. Kaduk

J. Kaduk reported that the subcommittee did not make any formal motions to the board last year. There had been a good bit of Polymer activity going on in the past. J. Kaduk stated that he had an article in the March issue of *Powder Diffraction Journal* on Calcium Citrate Supplements. A couple of the Calcium Citrates have PEG in the formulation and that pattern is only in Set 67. He added a note in the article stating that is why you always have to update your PDF® database!

7. Status of Polymer Activity T. Blanton

T. Blanton displayed a slide of the polymers added to the database in the past year. Much of the focus this year was on methacrylate related polymers; for the most part, they are amorphous or very poorly crystalline, although a few have a couple of peaks. Out of all of the samples displayed the only one that you could pull a unit cell out of was hydroxybutyrate. A couple more polymers will be added to the database from some submissions. Since the start of this project, headquarters has added 101 polymers to the database. Keep in mind, sometimes there may be three entries from the same polymer, but this is the amorphous form, the semi-crystalline form, and the biaxial-oriented form, as an example.

Discussion continued on the list of polymers that are going to be added to the database. T. Blanton stated that while headquarters is pushing to add new polymers to the database, there is extra emphasis on biomedical and pharmaceutical applications. The effort at headquarters will continue. With M. Rost working with the instrumentation, helping to push the project forward. T. Blanton states that what we are missing is IR data as support, or DSC data, because if you could get some information on crystallization temperatures it would speed up the in-lab processing.

More information on the Polymer project can be found here: [Polymers - MarchMeetings2018 Blanton-T.pdf](#)

8. Evaluation of principal residual stress in polymer products L.Liu

L. Liu reported on how residual stress helps solve problems that occur on a daily basis for people who work with polymers. See his publication: [Principal Residual Stress -Lizhi Liu.pdf](#)

9. Future Focus

General

L. Liu proposed that more attention can be given to biopolymers, as more and more products are made of biodegradable polymers, due to plastic pollution. L. Liu offered to send some biodegradable polymer samples to ICDD for staff to analyze. L. Liu will work with S. Gates-Rector on getting the samples to ICDD Headquarters.

S. Gates-Rector asked the polymers subcommittee to email her with any patterns or data that they may have that ICDD should include in the database.

10. Adjournment