

Bridge to the Doctorate Meeting Notes

Meeting Minutes for 3/6/2019

Presenter: Brandon

Minute Taker: Pierre Dens Fils

Topic: Nanostructured Multi-functional Coating from One-Step Co-assembly of Polymer/Inorganic Nanoparticles

Flame retardant

- A flame-retardant coating was prepared in a one post self-assembly and applied to polybutylene terephthalate (PBT) via dip-coating
 - Important because there are a lot of fire related injuries and damages
 - Halogenates—reduces fire but if there are complication the effects are a lot worst
 - how to fight fire → we need to reduce the amount of recourses available for fire.
 - Therefore, using Nano partials, we can convolve the path for oxygens and halogens to the imperial substrate.
 - Coatings vary in thickness
 - through a process of dip coating the peaks can be seen being more amorphic as the mass is increased.
 - The goal is to increase the aspect ratio of substrate morphology

VFT (vertical flame test)

- During VFT the coating displays significant increase in the flame-retardant properties of treated samples, with the 4-cycle coating displaying the most improved performance. Coated sample effectively prevent sample from dripping

Research summary

- Fires spread because substrates drip.
- By adding the more cycle of coding, the char is increased which decreases the amount of substrate drip. This helps to control the spread of fire.
- Self-extinguishing is not yet achieved but progress is being made.

Professional Development Activity

To make a good poster, answer the following question.

1. Why should anyone care?
2. What is your scientific contribution
3. What did you do?
4. What did you find or recommend?

