Supervisor opinion on PhD thesis of Aravin Prince Periyasamy

I am writing this recommendation letter for Mr. Aravin Prince Periyasamy for his PhD defense. Mr. Aravin Prince Periyasamy has been a PhD research scholar under my supervision since 2015. Throughout his studies, I observed that he is highly intelligent and has good analytical skills.

The main aim of this PhD work is to find the impact of different drawing ratio on physical, mechanical and optical properties of mass colored photochromic isotactic polypropylene filament as well as the impact of the precursor on optical and physical properties of sol-gel photochromic coated PET fabrics.

The PhD thesis quite comprehensive and which satisfy the objects outlined in his thesis. The thesis has written clearly and according to the specified format with a high-level language. The candidate has done all his work systematically with specific objectives. Experimental data are in thesis is organized, analyzed logically and the results are discussed in an accurate manner. He has shown adequate ability to explain analytically to a various complex of scientific problems of photochromic incorporation in mass coloration as well as in the sol-gel coating. The results obtained from his thesis provides great importance not only scientific community also for the tycoons.

His publication is quite worthy and published four papers in impact factor journals (as far now, one more is accepted and one is under review), three book chapters, one book in esteemed publishers and seven articles in conference proceedings. By concluding this opinion, I can say from his work finds the relationship between the drawing ratio on the various optical properties of mass colored photochromic isotactic polypropylene filaments, which purely depends on. On another hand, the precursor plays a vital role in the optical and physical behaviour of photochromic textiles, in some case interesting effect called "hypsochromic shift" was found. In overall, the results are interesting, novelty and ready to use practically.

Therefore, I strongly recommend the thesis for the final defense.

Liberec, 12. June 2018

doc. Ing. Martina Vikova, Ph.D.
Supervisor