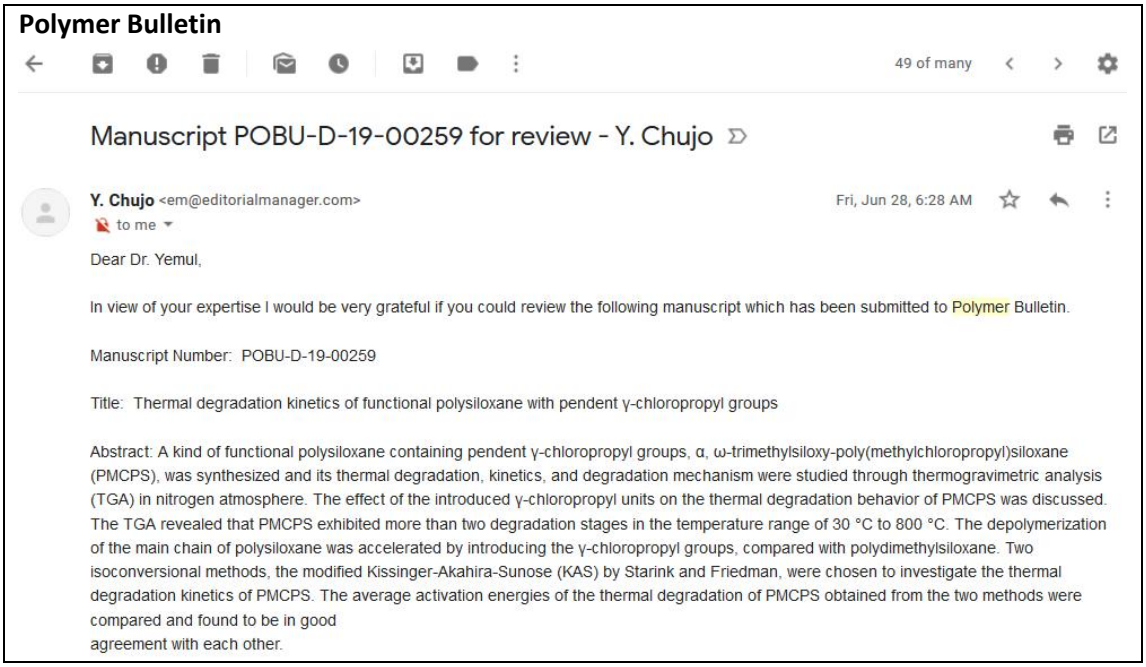
Polymer Bulletin



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Manuscript POBU-D-19-00259 for review - Y. Chujo

Y. Chujo <em@editorialmanager.com> Fri, Jun 28, 6:28 AM

to me

Dear Dr. Yemul,

In view of your expertise I would be very grateful if you could review the following manuscript which has been submitted to Polymer Bulletin.

Manuscript Number: POBU-D-19-00259

Title: Thermal degradation kinetics of functional polysiloxane with pendent γ-chloropropyl groups

Abstract: A kind of functional polysiloxane containing pendent γ-chloropropyl groups, α, ω-trimethylsiloxy-poly(methylchloropropyl)siloxane (PMCPS), was synthesized and its thermal degradation, kinetics, and degradation mechanism were studied through thermogravimetric analysis (TGA) in nitrogen atmosphere. The effect of the introduced γ-chloropropyl units on the thermal degradation behavior of PMCPS was discussed. The TGA revealed that PMCPS exhibited more than two degradation stages in the temperature range of 30 °C to 800 °C. The depolymerization of the main chain of polysiloxane was accelerated by introducing the γ-chloropropyl groups, compared with polydimethylsiloxane. Two isoconversional methods, the modified Kissinger-Akahira-Sunose (KAS) by Starink and Friedman, were chosen to investigate the thermal degradation kinetics of PMCPS. The average activation energies of the thermal degradation of PMCPS obtained from the two methods were compared and found to be in good
agreement with each other.