# Flame Retardancy and Mechanical Properties of Melt-Spun PA66 Fibers Prepared by End-Group Blocking Technology

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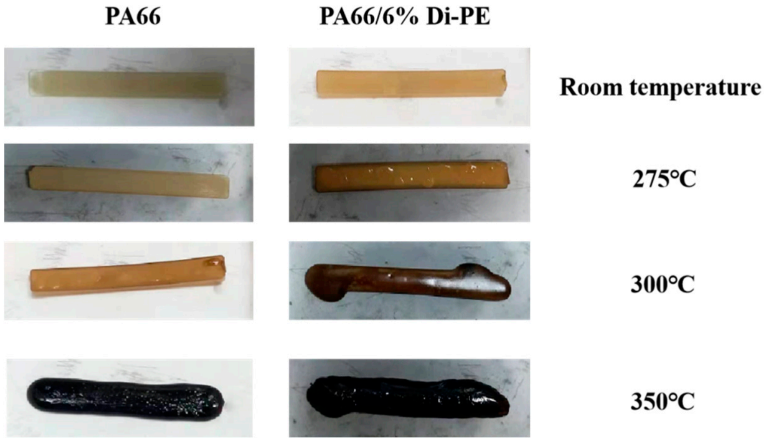


**Figure S1** Pure PA66 and PA66/6% Di-PE composites in muffle furnace at different temperature

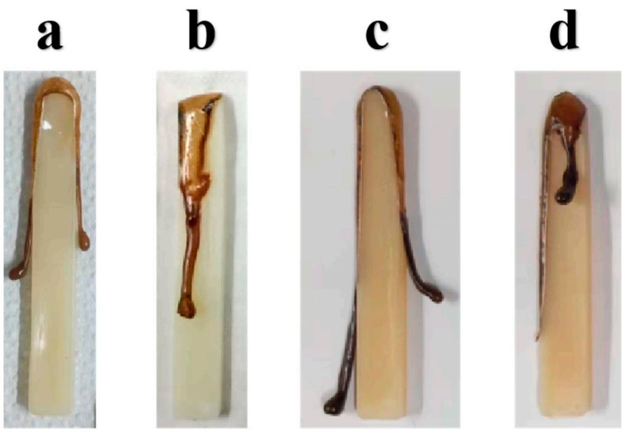


**Figure S2** Digital photos of Pure PA66 (a)、PA66/2% Di-PE (b)、PA66/4% Di-PE (c) and PA66/6% Di-PE (d) after LOI test.

**Table S1 Representative information of PA66 flame retardant modified from recent years.**

| Materials | Method | Content | LOI (%) | UL-94 | Cone calorimeter power (kW/m²) | PHRR (kW/m²) | THR (MJ /m²) | Reference |
|---|---|---|---|---|---|---|---|---|
| PA66-10% MCPO | Copolymerization | 10 | 29.0 | V-0 | 50 | 429.0 | 60.2 | [1] |
| PA66-6% CEPPA | Copolymerization | 6 | 28.0 | V-0 | - | - | - | [2] |
| PA66-5% DDP-HMDA | Copolymerization | 5 | 33.2 | V-0 | 50 | 712.0 | 105.9 | [3] |
| PA66-5% NENP | Copolymerization | 5 | 28.0 | V-0 | 50 | 432.6 | 72.9 | [4] |
| PA66-4.5% PDPPD | Copolymerization | 4.5 | 29.0 | V-0 | 50 | 570.0 | 80.0 | [5] |
| 83PA66/12% ADCP/5% Nano-Silica | Blending | 17 | 35.2 | V-0 | 35 | 462.2 | 40.7 | [6] |
| 84.5PA66/6% MCA/6% ALPi/2.5% Gr | Blending | 14.5 | - | V-0 | | - | - | [7] |
| 90PA66/9.7% ALPi/0.3% MgO | Blending | 10 | 32.8 | V-0 | 50 | 698.0 | 98.0 | [8] |
| 90PA66/10% ADCP | Blending | 10 | 28.0 | V-0 | - | - | - | [9] |
| 90PA66/10DT | Blending | 10 | 27.6 | - | 50 | 481.0 | 48.6 | [10] |
| PA66/6% Di-PE | Blending | 6 | 29.4 | V-0 | 50 | 558.7 | 60.1 | This work |

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