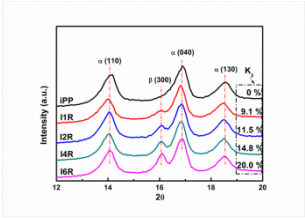

Figure S1 (a) The WAXD spectra and the calculated relative fraction of β-form (K_β) of various samples taken from injection molded bars.

In order to explore the reasons for the influences of EA-UFPR contents on K_β, the α-nucleating efficiency of EA-UFPR has been investigated in ternary system (iPP/-EA-UFPR), and the results are presented in Fig. S1. With the adding in EA-UFPR content, the peak of β-crystal emerges and intensities of the peak improve gradually with the further addition of EA-UFPR. In addition, the values of K_β are calculated quantitatively, which are increase continuously with the adding of EV-UFPR. It is suggested that the EA-UFPR plays no role in promoting the formation of α-crystal because that it can induce the generation of β-crystal during machining process.

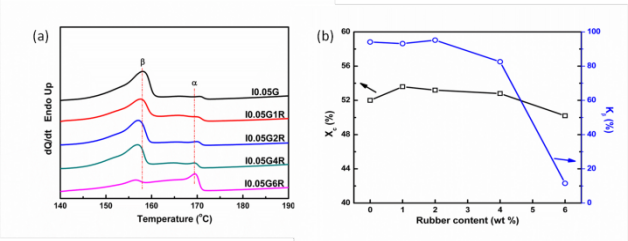

Figure S2 (a) DSC therograms of heating scans after completely isothermal crystallization at 138 °C, (b) Crystallinity (X_c) and β crystal relative content (K_β) calculated from (a) according to equation (1,2).

For the purpose of judging what is happen after the isothermal crystallization process in detail, the heating scans after isothermal crystallized at 138 °C are exhibited in Fig. S2 (a) and the quantitative X_c and K_β are presented in Fig. S2 (b). There are no obvious changes in the location of melting peaks of various samples with different EA-UFPR content. However, a significant decrease occurs when the EA-UFPR content reach to 6 wt %. The calculated results shown in Fig S1 (b) illustrate that relative fraction of β-crystals drop sharply in I0.05G6R with a stable X_c. Besides, the avrami exponent (n) of I0.05G6R exhibits significant increase from 3 (I0.05G) to 3.7. Therefore, the sharp decrease of K_β in I0.05G6R is well agrees with the results of n implying the existence of the mixed growth of α-crystals and β-crystals.