Supplementary Information

Regioselective Post-Functionalization of Isotactic Polypropylene by Amination in Presence of N-Hydroxyphthalimide

Houbo Zhou,1 Christopher M. Plummer,1 Huaan Li,1 Huahua Huang,1* Pengfei Ma,2 Le Li,2 Lixin Liu1 and Yongming Chen1*

1School of Materials Science and Engineering, Key Laboratory for Polymeric Composite and Functional Materials of Ministry of Education, Sun Yat-sen University, Guangzhou 510275, China.
2School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China.

* Corresponding author: HHH (email: huanghh27@mail.sysu.edu.cn), YMC (email: cheny35@mail.sysu.edu.cn)

![Figure S1. GPC curves of cleaved polystyrene grafted to PP with THF as eluent.](image-url)
Figure S2. DSC curves of original PP, PP-g-BTCEAD (entry 3, Table 1), PP-g-PS (entry 3, Table 2) and PP-g-PtBA (entry 6, Table 3).

Figure (A).
Figure S3. Glass transition temperature of (A) PP-g-PS (entry 3, Table 2) and (B) PP-g-PtBA (entry 6, Table 3) based on DSC curves.

Figure S4. The assignment of tacticity of original isotactic PP from $^{13}$C NMR.
Figure S5. The assignment of tacticity of PP-g-BTCEAD (entry 3, Table 1) from $^{13}$C NMR.

Calculation method$^1$:

tacticity of original isotactic PP:

\[
\begin{align*}
[mmmm]\% & = \frac{[mmmm]}{[mmmm] + [mmmr] + [mmrr] + [mmrrm] + [rrrr] + [rrrm] + [rrrmm]} \times 100\% \\
& = \frac{11.47}{11.47 + 0.77 + 1.08 + 1.00} \times 100\% \\
& = 80.1\%
\end{align*}
\]

tacticity of PP-g-BTCEAD:

\[
\begin{align*}
[mmmm]\% & = \frac{[mmmm]}{[mmmm] + [mmmr] + [mmrr] + [mmrrm] + [rrrr] + [rrrm] + [rrrmm]} \times 100\% \\
& = \frac{32.21}{32.21 + 9.29 + 0.11 + 1.00} \times 100\% \\
& = 83.32\%
\end{align*}
\]
= 75.6%

Figure S6. Fitting curve of $M_n$ against conversion of styrene.

Reference: