The FTIR spectrum of the PUR sample was recorded and is displayed in **Fig. S1**. The absorption bands at 3396 cm^{-1} corresponded to the N-H stretching mode. The peak at 1519 cm^{-1} confirmed the combination of N-H out-of-plane bending and C-N stretching mode. Bands at 2971 and 2925 cm^{-1} were associated with -CH_2 stretching, while other modes of -CH_2 were identified by the bands at 1313 and 1413 cm^{-1}. In addition, the absorption band at 1718 cm^{-1} was associated with a C=O group. The absorption bands at 1079 and 1230 cm^{-1} originated from a C-O-C group. There were phenyl absorption bands located at 3122, 3019, 1602, 817 and 767 cm^{-1}. These characteristic peaks indicated that the PUR sample could be ascribed to polyester polyurethane.

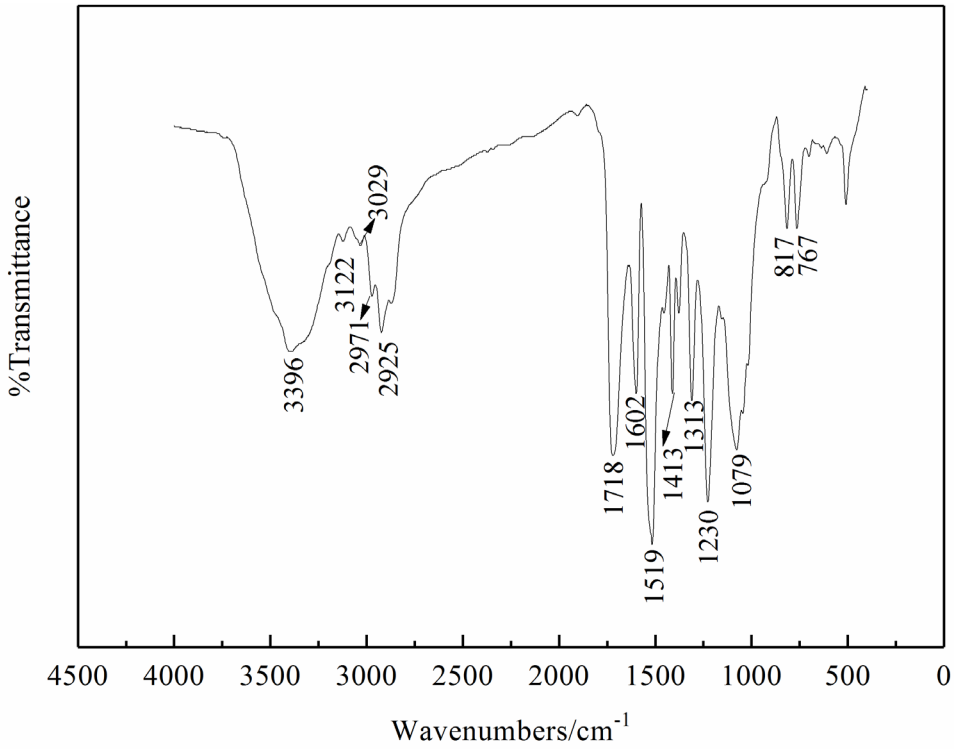

Fig. S1. FT-IR spectrum of *PUR* sample

Table S1. Model-fitting and model-free methods used

Methods	Equations	Plotting method
CR	$ln\frac{g(a)}{T^2}=ln\frac{AR}{\beta E_\alpha}-\frac{E_\alpha}{RT}$	$ln\frac{g(a)}{T^2}$ against $\frac{1}{T}$, Slope=-E_α/R
Friedman	$ln(\beta\frac{d\alpha}{dT})=ln[Af(\alpha)]-\frac{E_\alpha}{RT}$	$ln(\beta\frac{d\alpha}{dT})$ against $\frac{1}{T}$, Slope=-E_α/R
FWO	$ln\beta=ln\frac{AE_\alpha}{Rg(\alpha)}-5.331-1.052\frac{E_\alpha}{RT}$	$ln\beta$ against $\frac{1}{T}$, Slope=-$1.052E_\alpha/R$
Tang	$ln\frac{\beta}{T^{1.894661}}=-1.00145033\frac{E\alpha}{RT}+C$	$ln\frac{\beta}{T^{1.894661}}$ against $\frac{1}{T}$, Slope=-$1.00145033E_\alpha/R$