Figure S1 TEM images of the as-prepared Au/Pdop/Fe₃O₄ NPs with 0.3 mM HAuCl₄.

Figure S2 The IR of Pdop@SiO₂@Fe₃O₄.

Figure S3 X-ray photoelectron spectrum of C1s for Au/Pdop/SiO₂/Fe₃O₄ NPs.
Figure S4 The optical imagine of original MB (left) and the remaining solution (right) after catalyzed by Au/Pdop/SiO$_2$/Fe$_3$O$_4$ NPs

Figure S5 Recycle experiment of degradation of MB after catalyzed by Au/Pdop/SiO$_2$/Fe$_3$O$_4$ NPs.