

Eco-efficient, Green, and Scalable Synthesis of 1,2,3-triazoles Catalyzed by Cu(I) Catalyst on Waste Oyster Shell Powders

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(1) 1-butyl-4-phenyl-1*H*-1,2,3-triazole

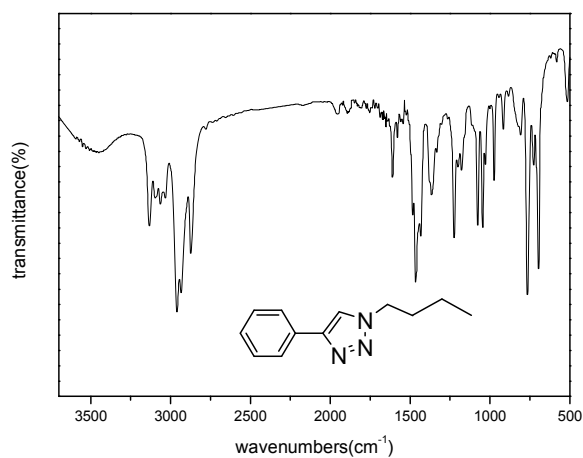


Fig. S1 FTIR spectrum of 1-butyl-4-phenyl-1*H*-1,2,3-triazole

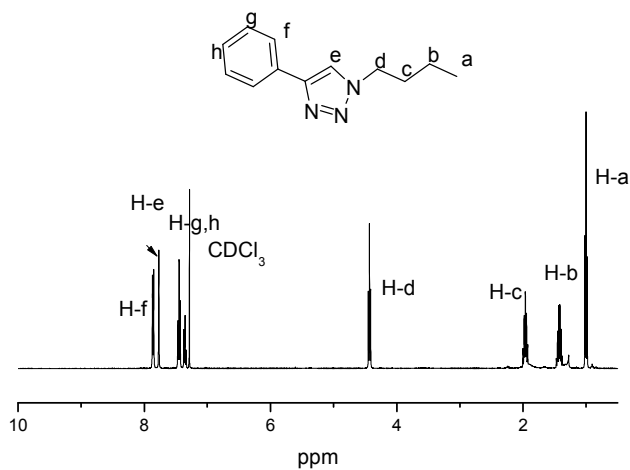


Fig. S2 ¹H NMR spectrum of 1-butyl-4-phenyl-1*H*-1,2,3-triazole

(2) 1-benzyl-4-phenyl-1*H*-1,2,3-triazole

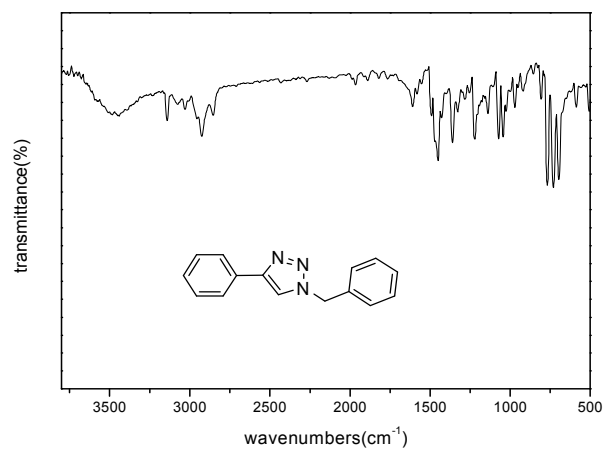


Fig. S3 FTIR spectrum of 1-benzyl-4-phenyl-1*H*-1,2,3-triazole

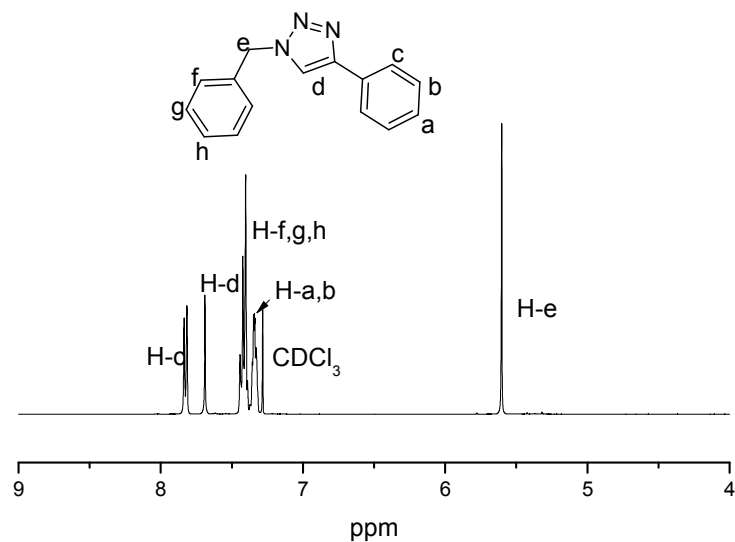


Fig. S4 ¹H NMR spectrum of 1-benzyl-4-phenyl-1*H*-1,2,3-triazole

(3) (1-benzyl-1*H*-1,2,3-triazol-4-yl)methanol

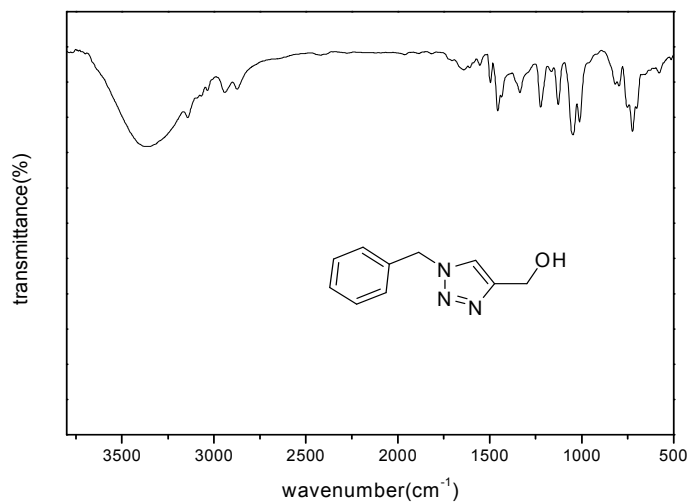


Fig. S5 FTIR spectrum of (1-benzyl-1*H*-1,2,3-triazol-4-yl)methanol

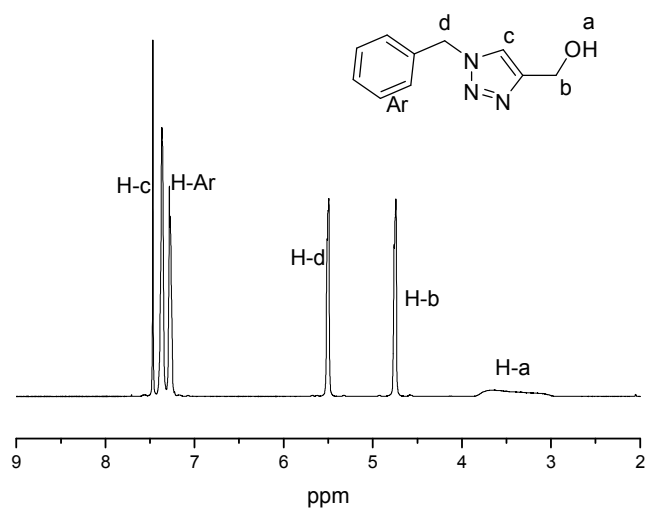


Fig. S6 ¹H NMR spectrum of (1-benzyl-1*H*-1,2,3-triazol-4-yl)methanol

(4) 1-benzyl-4-(phenoxyethyl)-1*H*-1,2,3-triazole

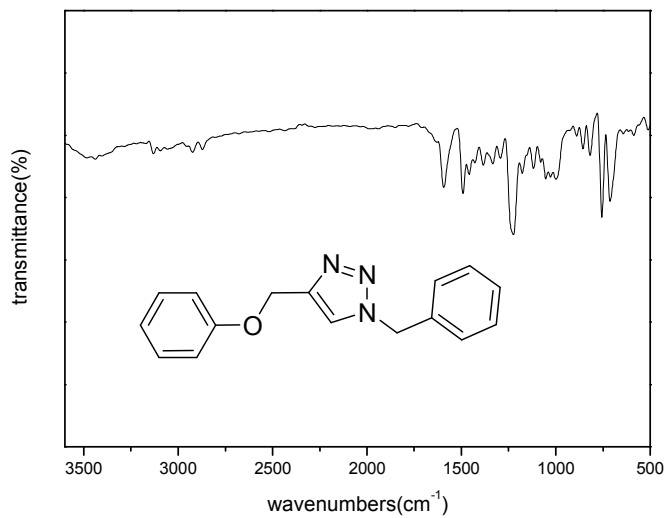


Fig. S7 FTIR spectrum of 1-benzyl-4-(phenoxy)methyl-1*H*-1,2,3-triazole

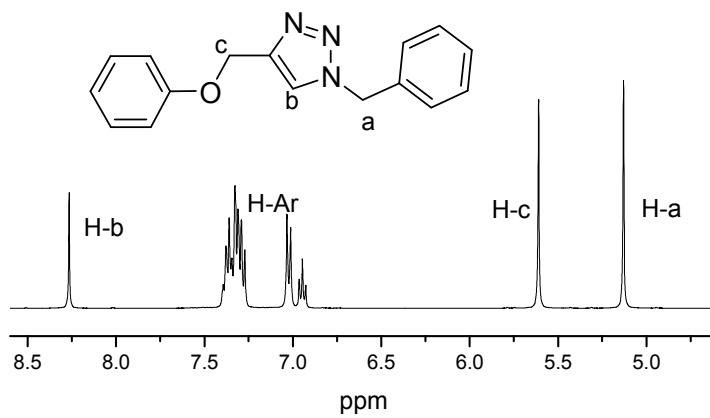


Fig. S8 ^1H NMR spectrum of 1-benzyl-4-(phenoxy)methyl-1*H*-1,2,3-triazole

(5) 4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)morpholine

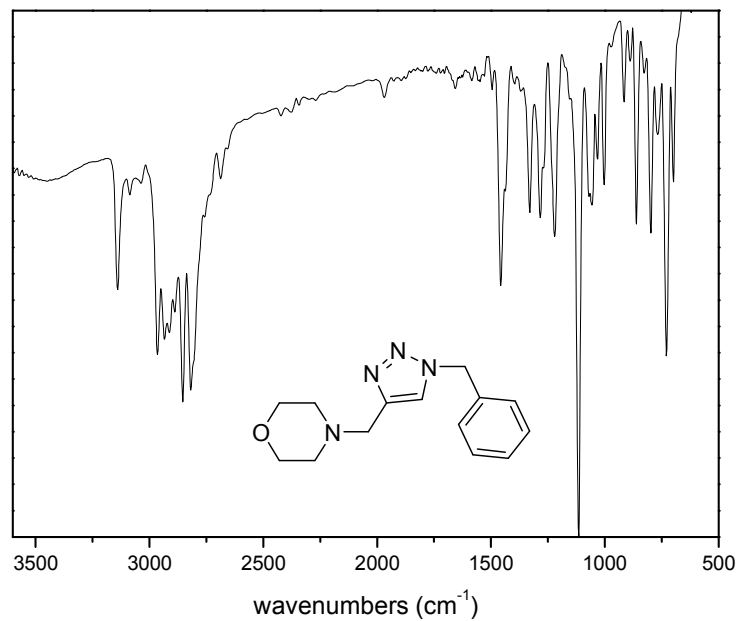


Fig. S9 FTIR spectrum of 4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)morpholine

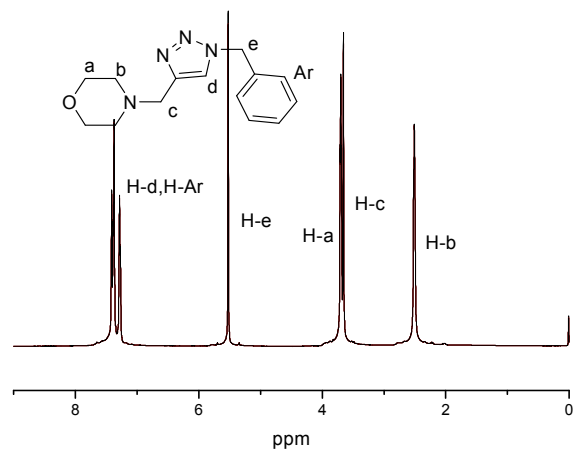


Fig. S10 ^1H NMR spectrum of 4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)morpholine

(6) (1-butyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

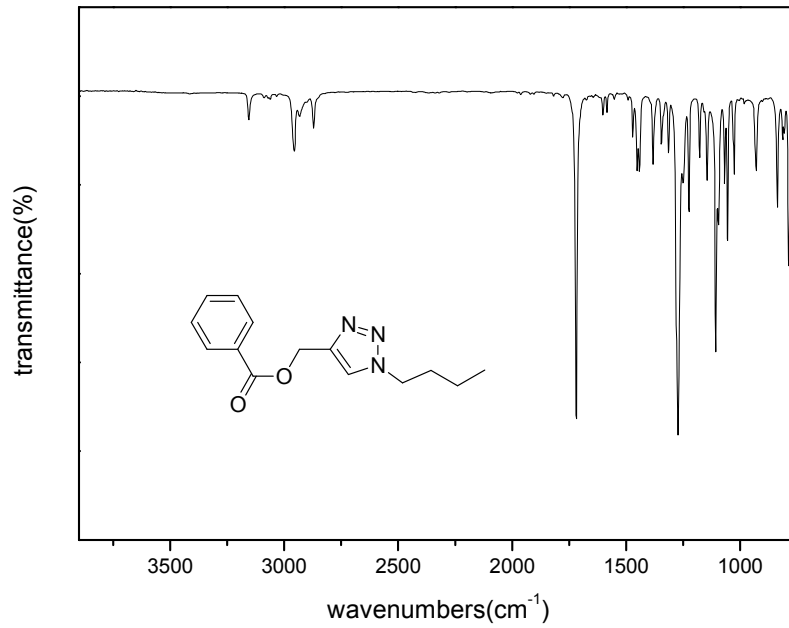


Fig. S11 FTIR spectrum of (1-butyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

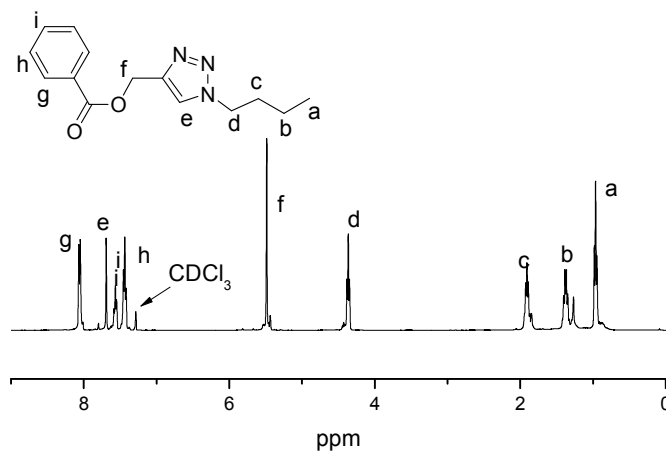


Fig. S12 ¹H NMR spectrum of (1-butyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

(7) 1-butyl-4-(phoxymethyl)-1*H*-1,2,3-triazole

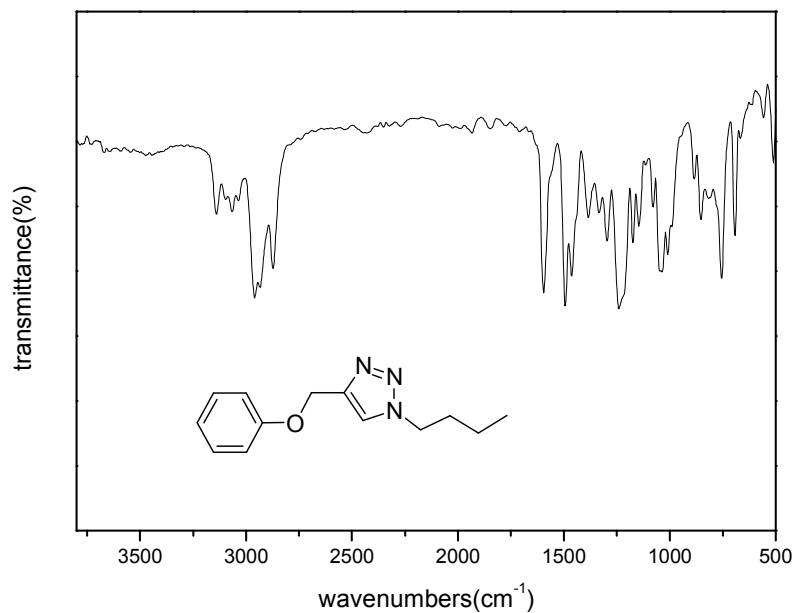


Fig. S13 FTIR spectrum of 1-butyl-4-(phenoxyethyl)-1*H*-1,2,3-triazole

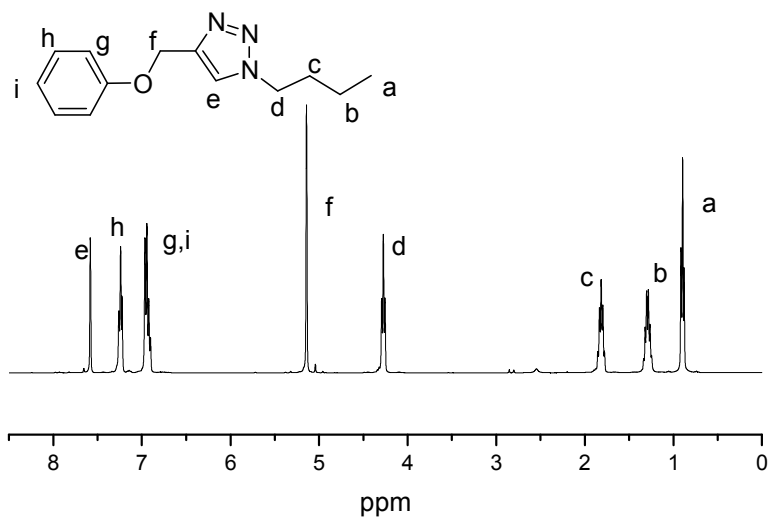


Fig. S14 ¹H NMR spectrum of 1-butyl-4-(phenoxyethyl)-1*H*-1,2,3-triazole

(8) (1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

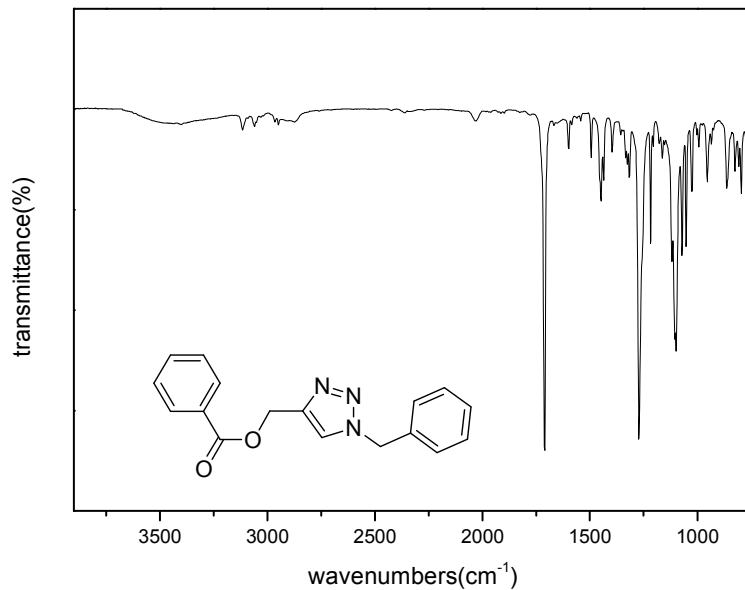


Fig. S15 FTIR spectrum of (1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

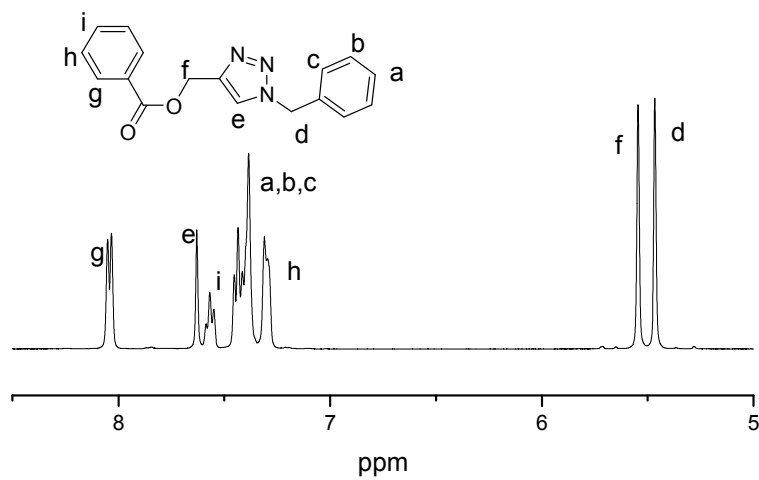


Fig. S16 ^1H NMR spectrum of (1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl benzoate

(9) 1-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)pyrrolidine-2,5-dione

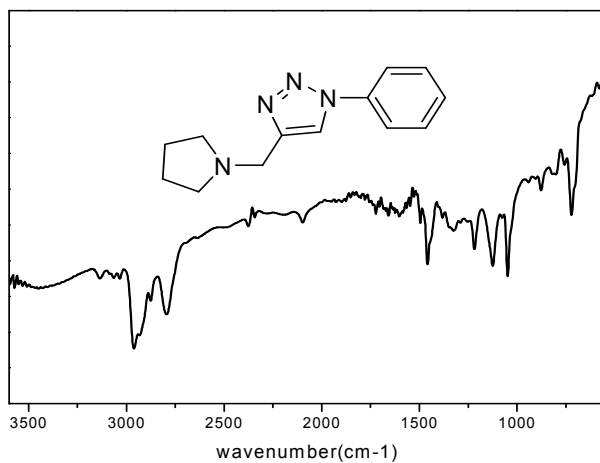


Fig. S17 FTIR spectrum of 1-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)pyrrolidine-2,5-dione

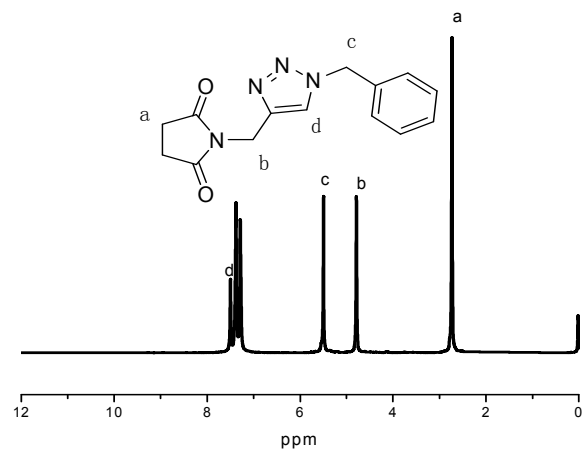


Fig. S18 ¹H NMR spectrum of 1-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl)pyrrolidine-2,5-dione

(10) (4-((1-butyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

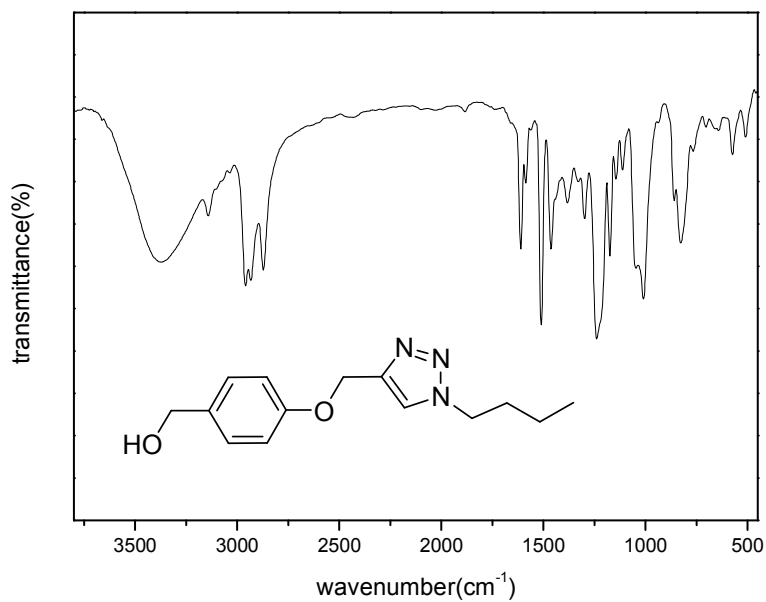


Fig. S19 FTIR spectrum of (4-((1-butyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

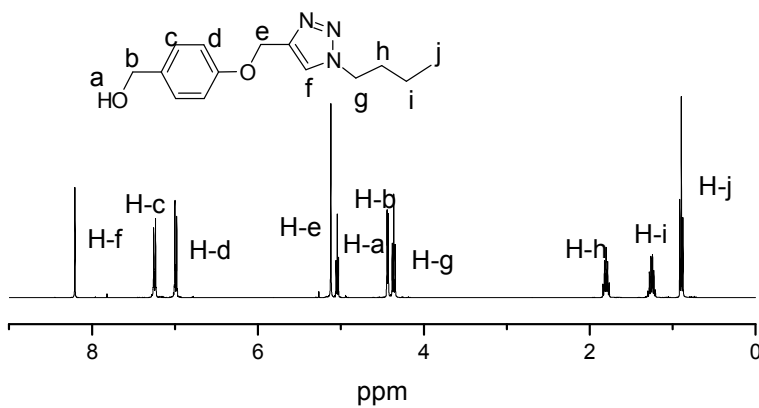


Fig. S20 ¹H NMR spectrum of (4-((1-butyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

(11) (4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

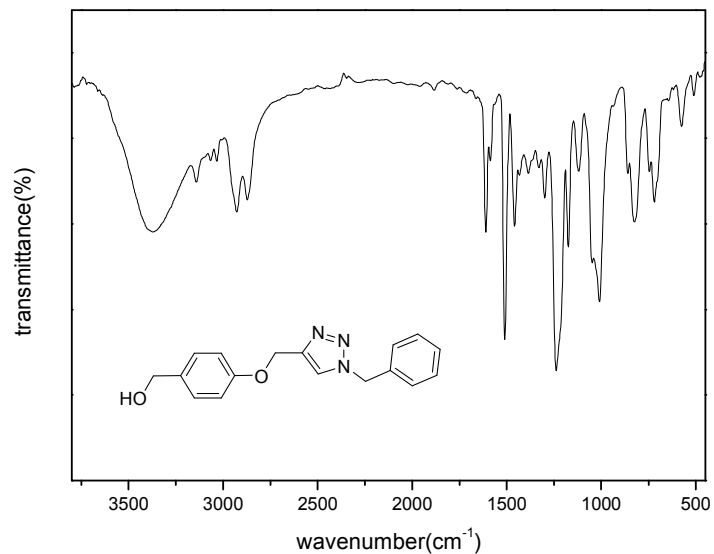


Fig. S21 FTIR spectrum of 4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

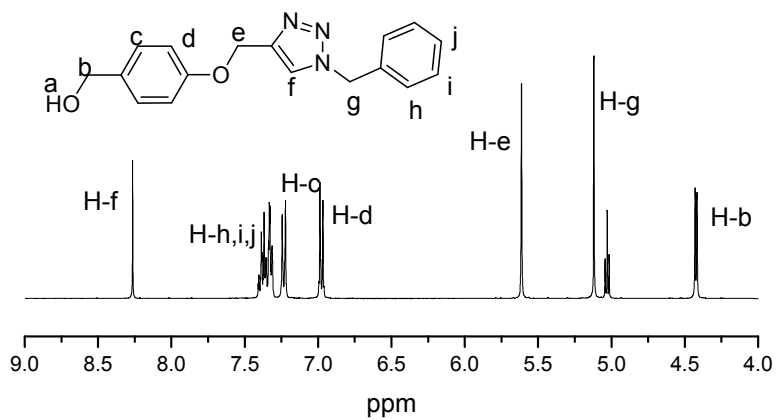


Fig. S22 ^1H NMR spectrum of 4-((1-benzyl-1*H*-1,2,3-triazol-4-yl)methoxy)phenyl)methanol

(12) (E)-(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl cinnamate

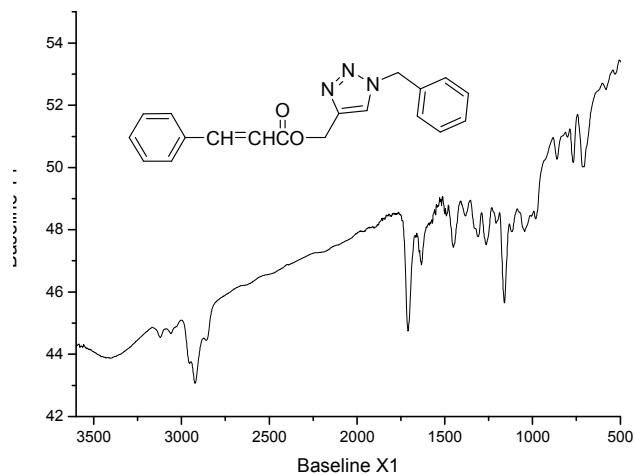


Fig. S23 FTIR spectrum of (E)-(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl cinnamate

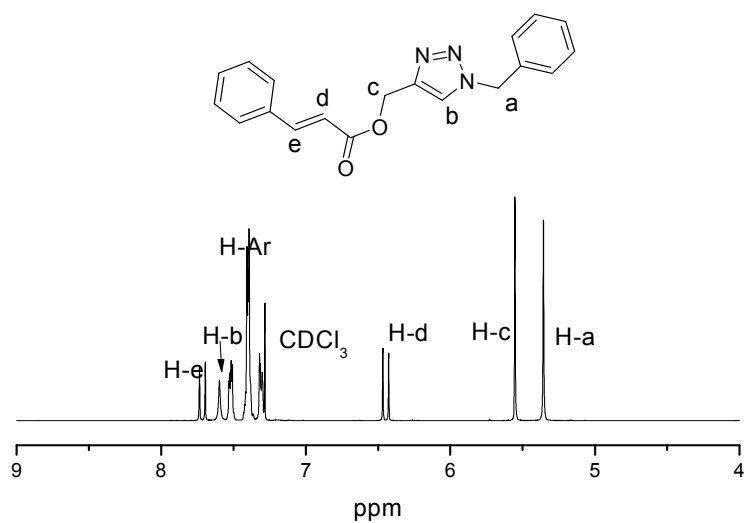


Fig. S24 ¹H NMR spectrum of (E)-(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl cinnamate

(13) 4-((4-methoxyphenoxy)methyl)-1-benzyl-1*H*-1,2,3-triazole

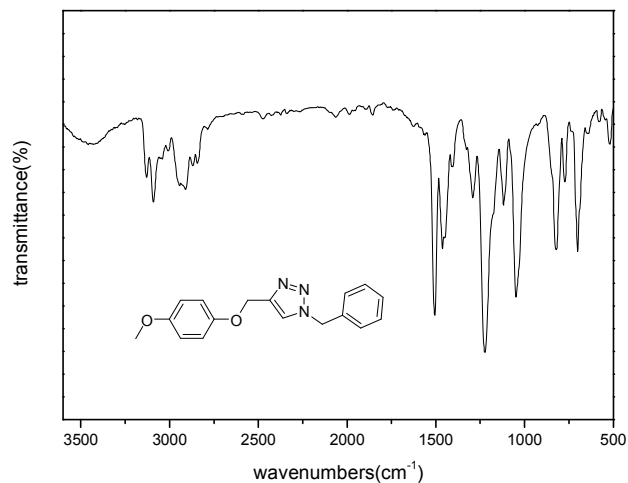


Fig. S25 FTIR spectrum of 4-((4-methoxyphenoxy)methyl)-1-benzyl-1*H*-1,2,3-triazole

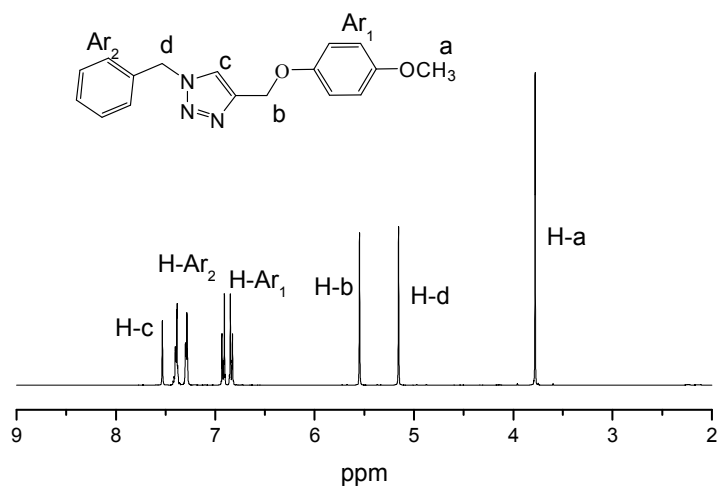


Fig. S26 ^1H NMR spectrum of 4-((4-methoxyphenoxy)methyl)-1-benzyl-1*H*-1,2,3-triazole