Electronic Supplementary Material (ESI) for RSC Advances.

CuO nanostructures of variable shapes as an efficient catalyst for [3+2] cycloaddition of azides with terminal alkyne

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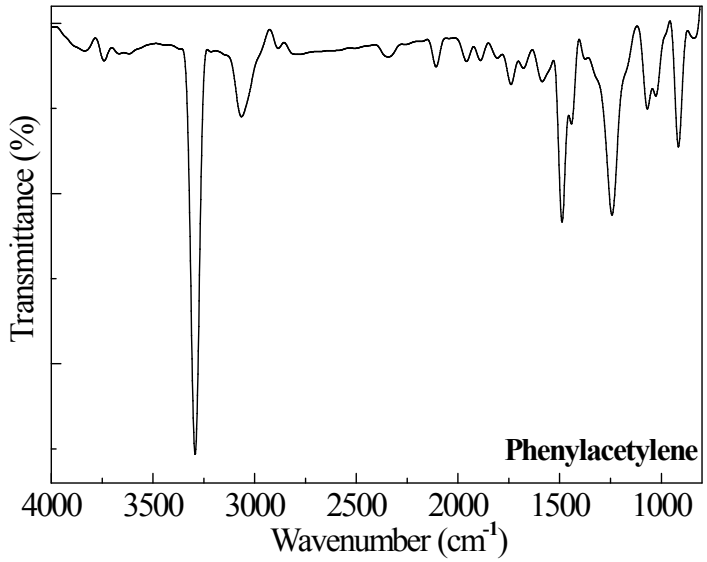
Figure S-1. IR spectra of phenylacetylene



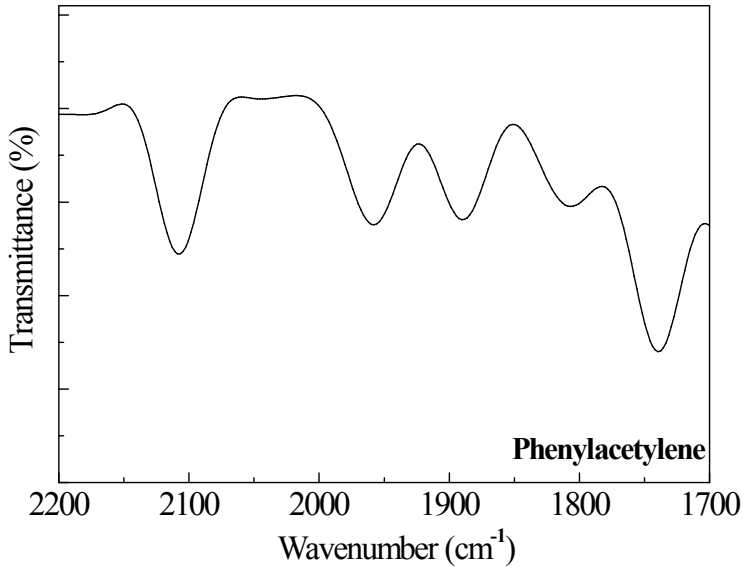
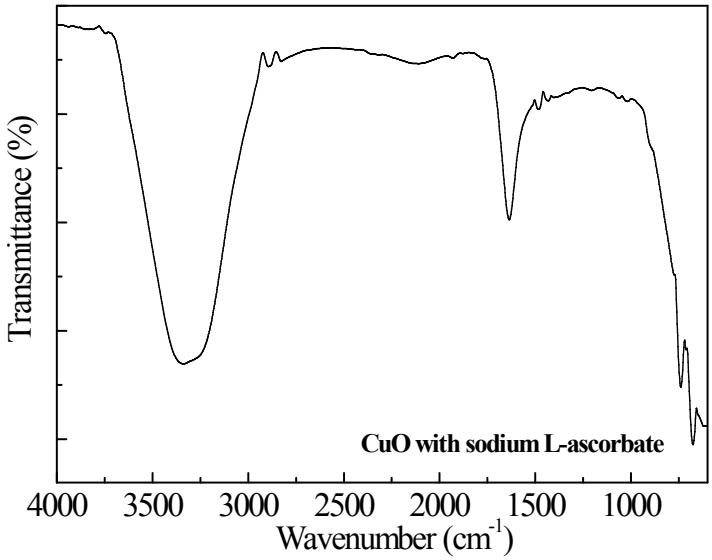


Figure S-2. IR spectra of the mixture of catalyst (CuO-NW), phenylacetylene with sodium L-ascorbate



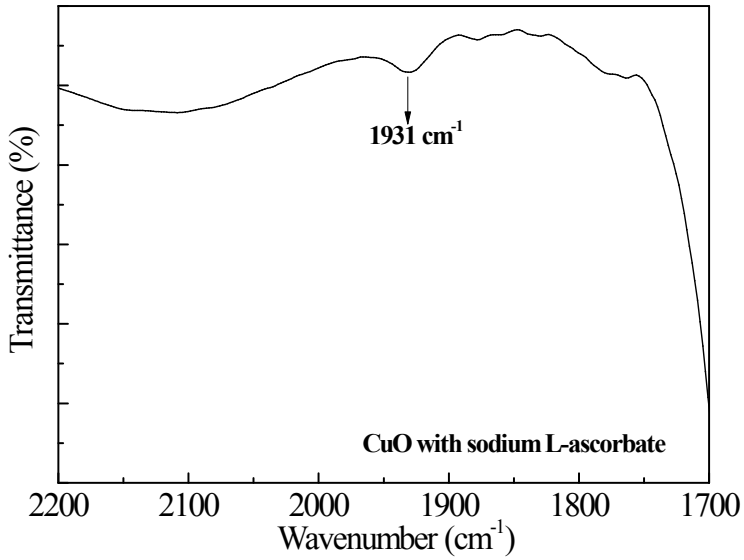


Figure S-3. IR spectra of the mixture of CuO-NW, phenylacetylene without sodium L-ascorbate

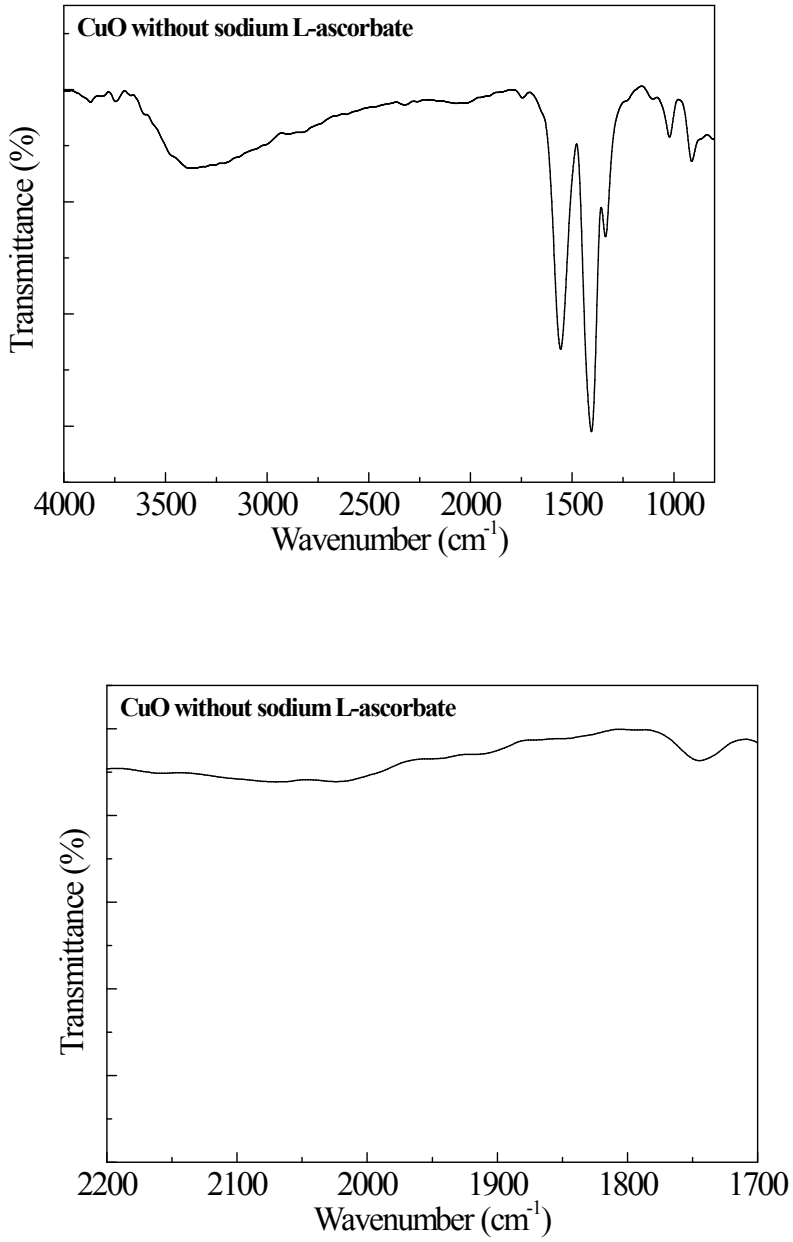


Fig. S-4. The XPS spectra of Cu(I)-acetylide complex (greenish yellow colour solid) and the *inset* shows the Cu 2p core level binding energy spectrum

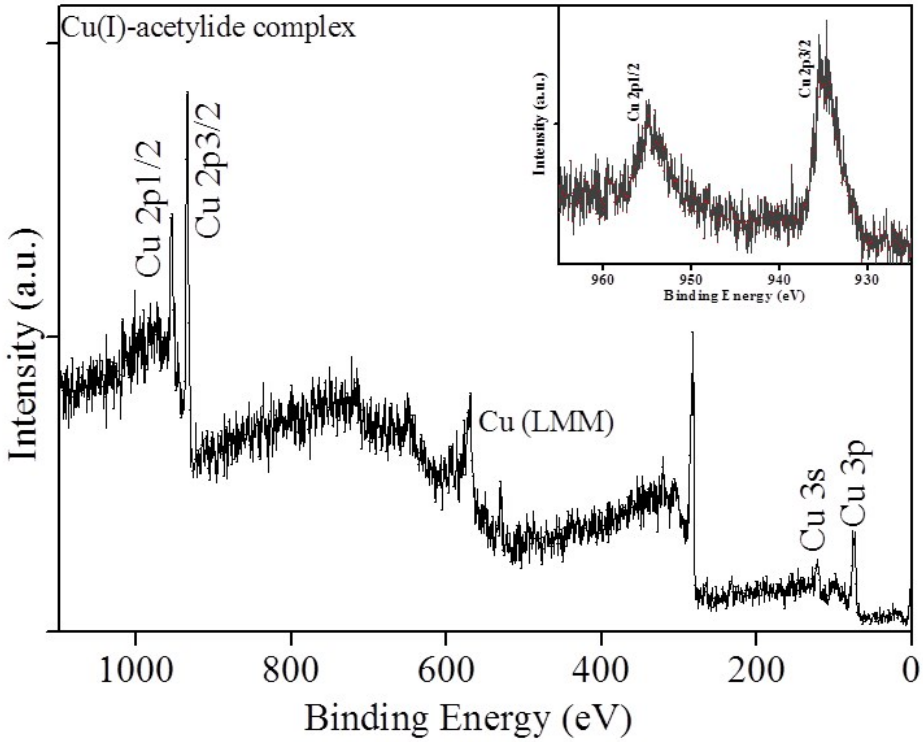


Fig. S-5. The XPS spectra of CuO-NW and Cu(I)-acetylide complex, showing the Cu 2p core level binding energy spectrum

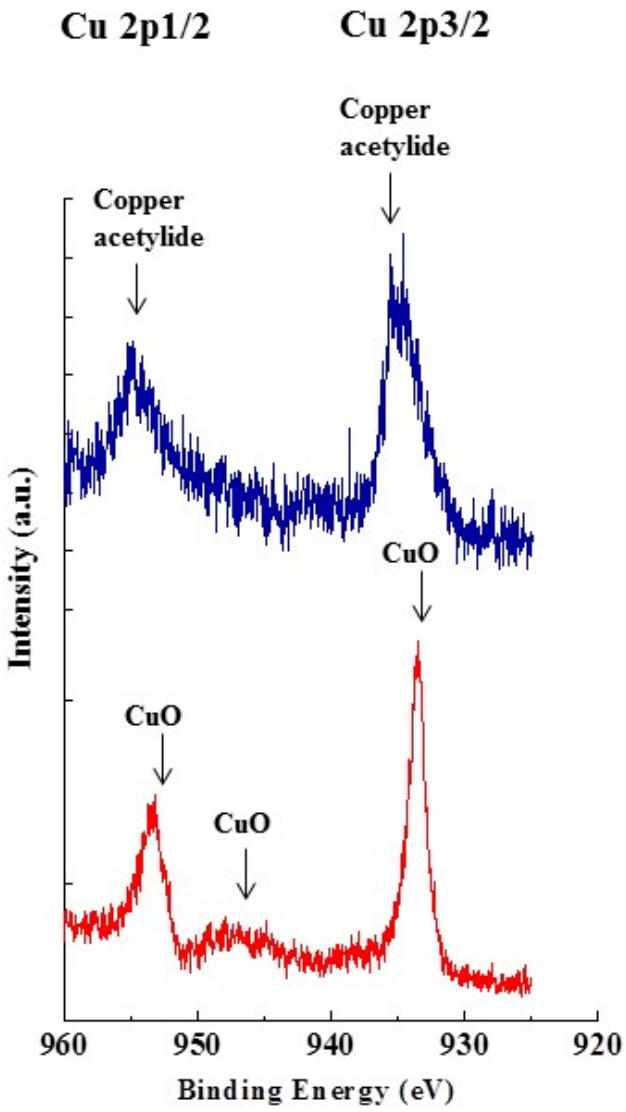
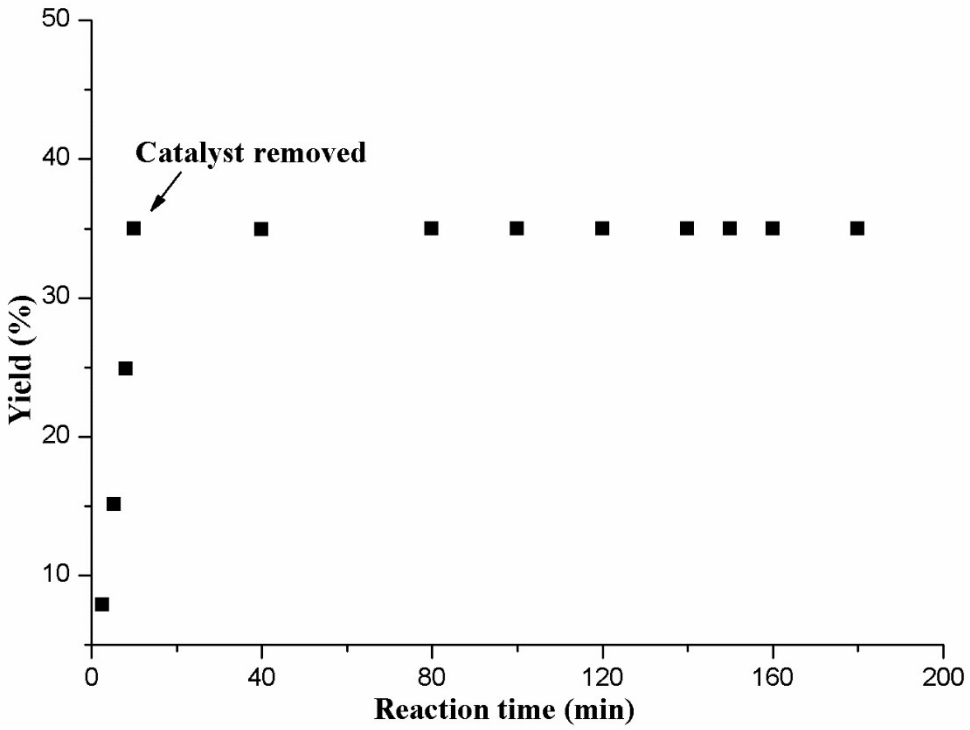
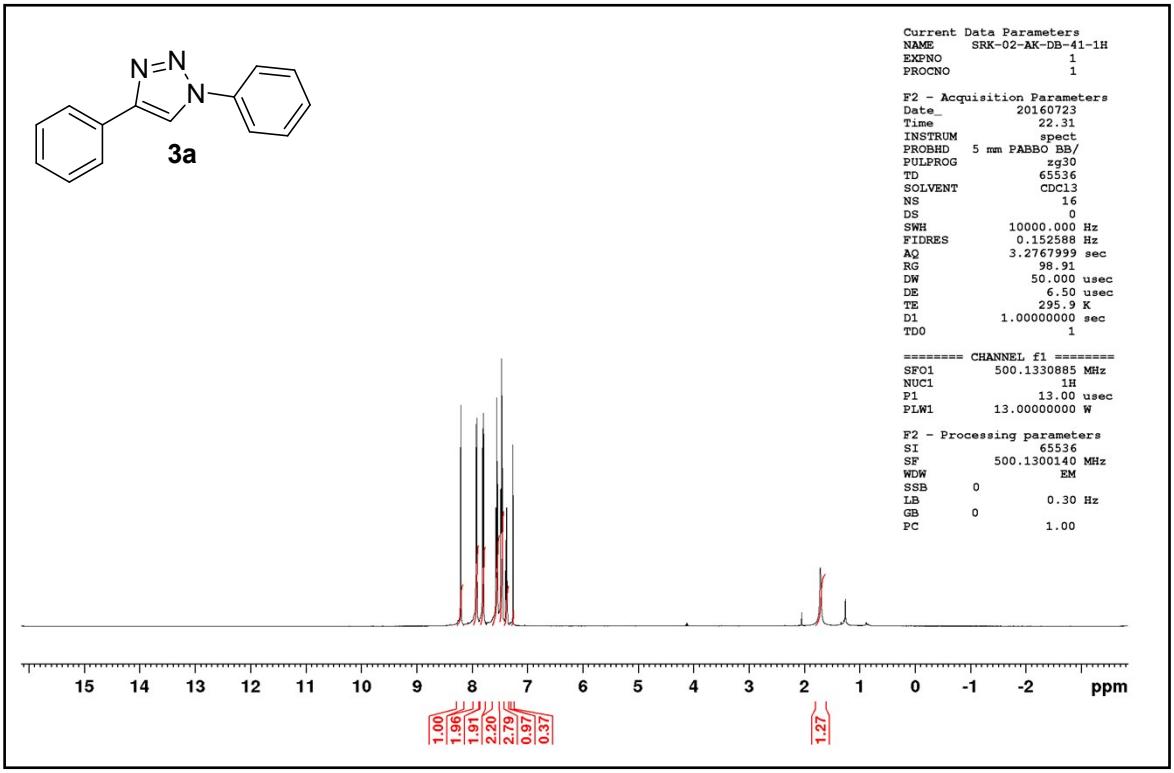


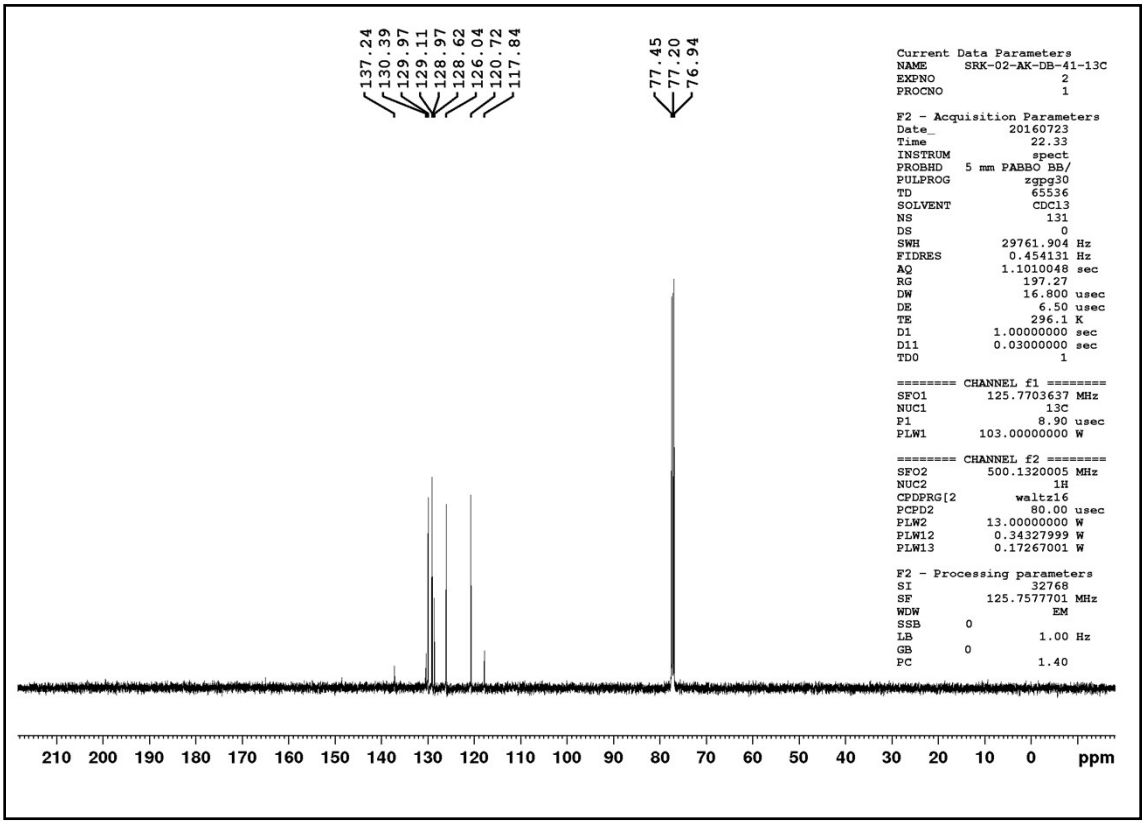
Fig. S-6. Leaching test of CuO-NW for the reaction of phenylacetylene and phenyl azide in the presence of sodium ascorbate in H_2O/*t*-BuOH (3:1) at room temperature



2. ^{1}H NMR, ^{13}C NMR and HRMS spectra of compounds 3a, 3b and 3c

^{1}H NMR (500 MHz, $CDCl_3$) ,^{13}C NMR (125 MHz, $CDCl_3$) and HRMS of compound 3a





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Comment	C14H11N3	Acquisition Date	8/8/2016 7:41:59 PM

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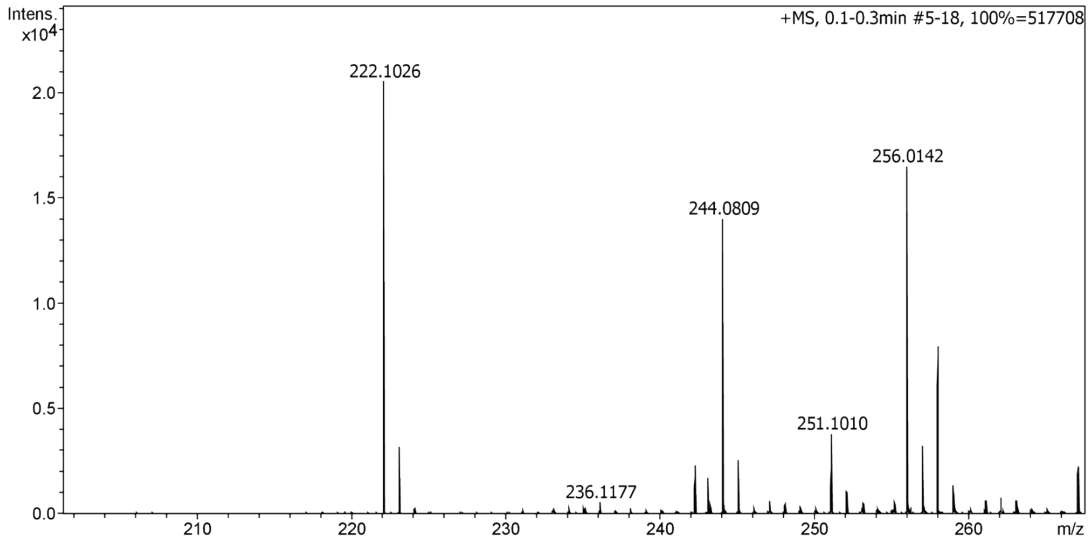

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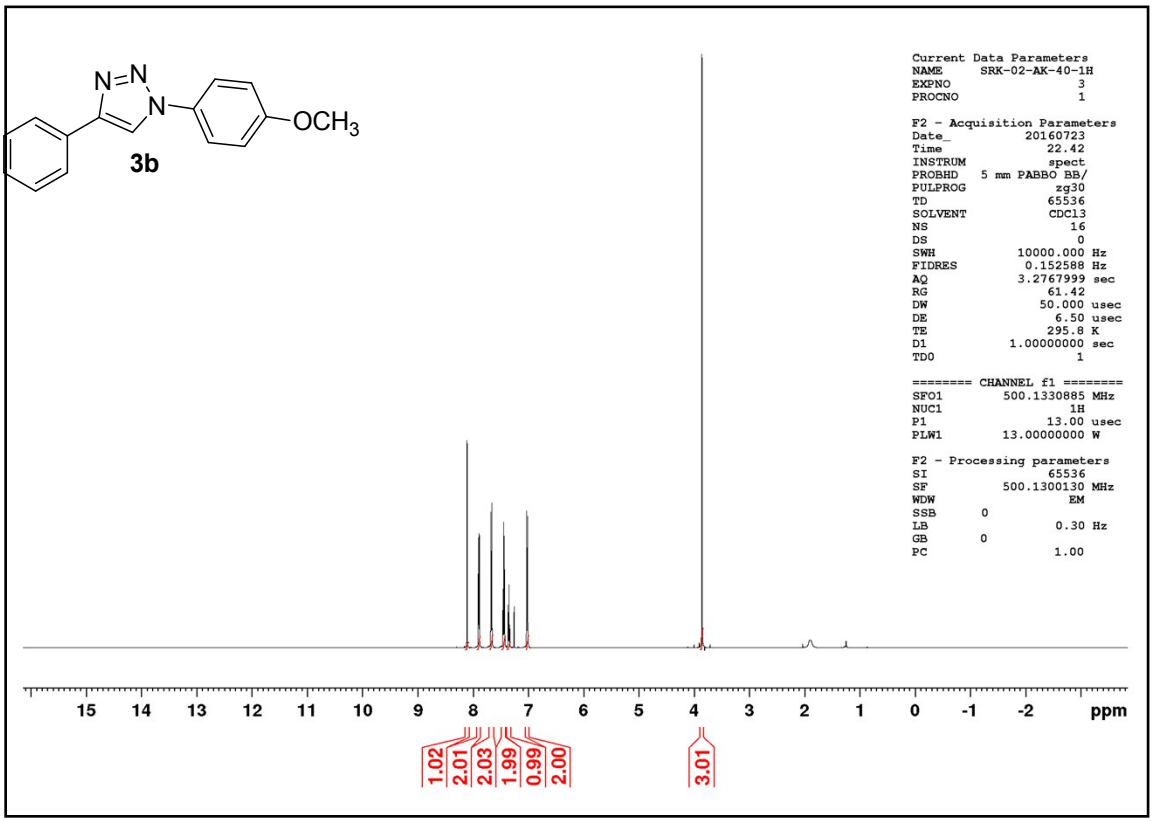
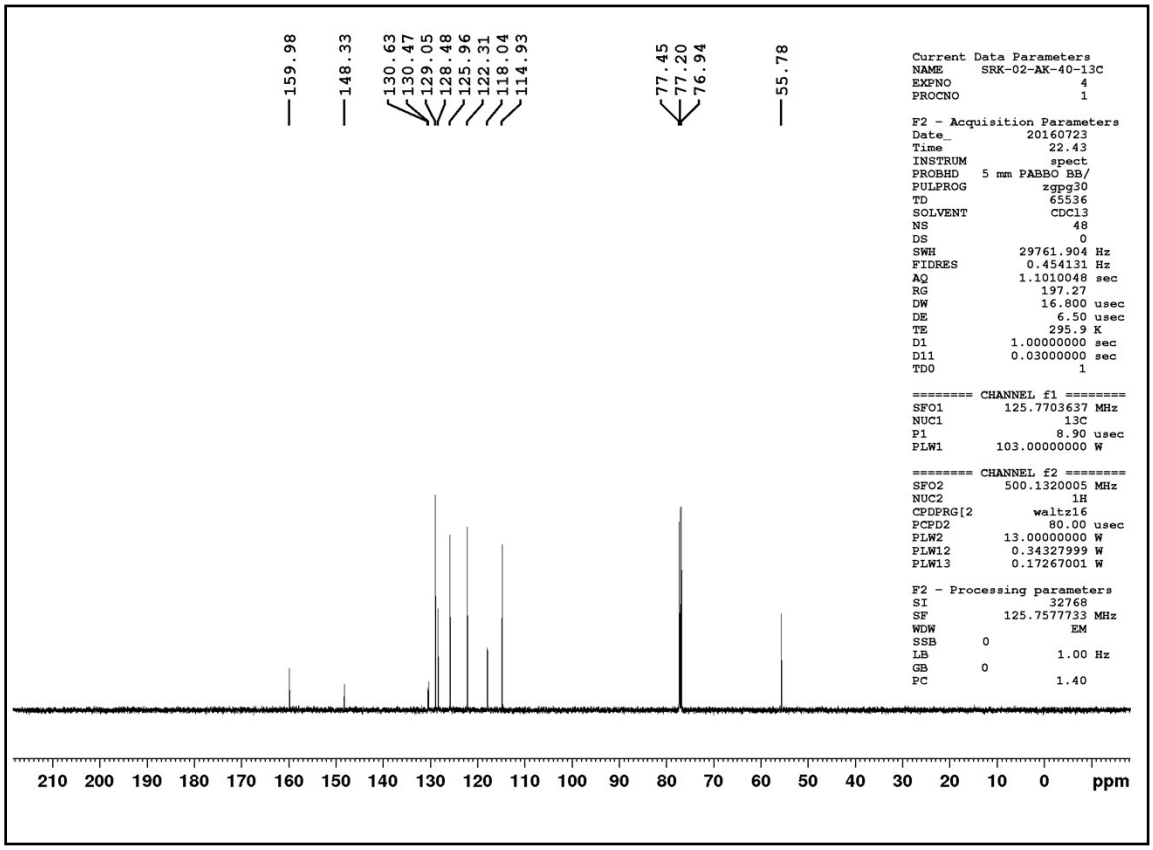
^{1}H NMR (500 MHz, $CDCl_3$), ^{13}C NMR (125 MHz, $CDCl_3$) and HRMS of compound **3b**





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Comment	C15H13N3O	Acquisition Date	8/8/2016 7:51:38 PM

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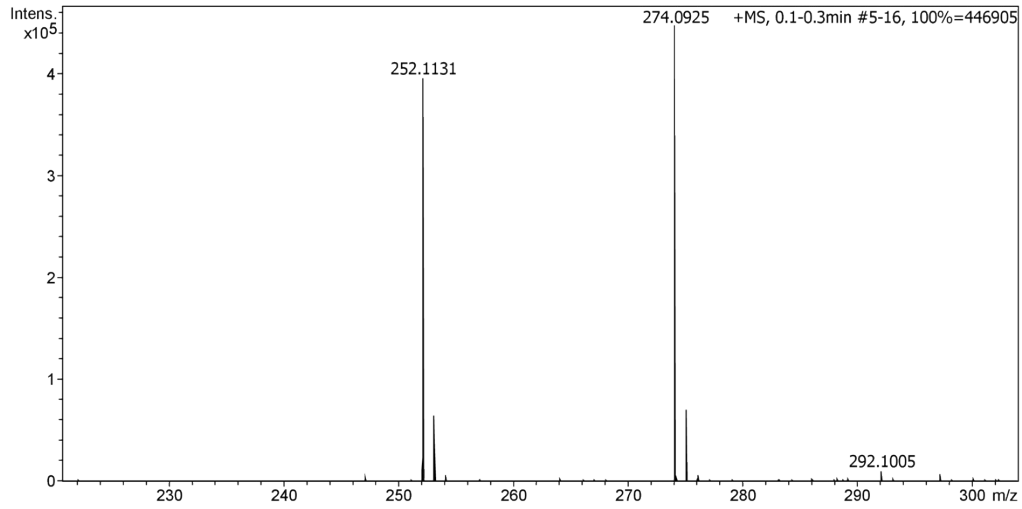
Scan End	700 m/z	Set Collision Cell RF	900.0 Vpp	Set Divert Valve	Source



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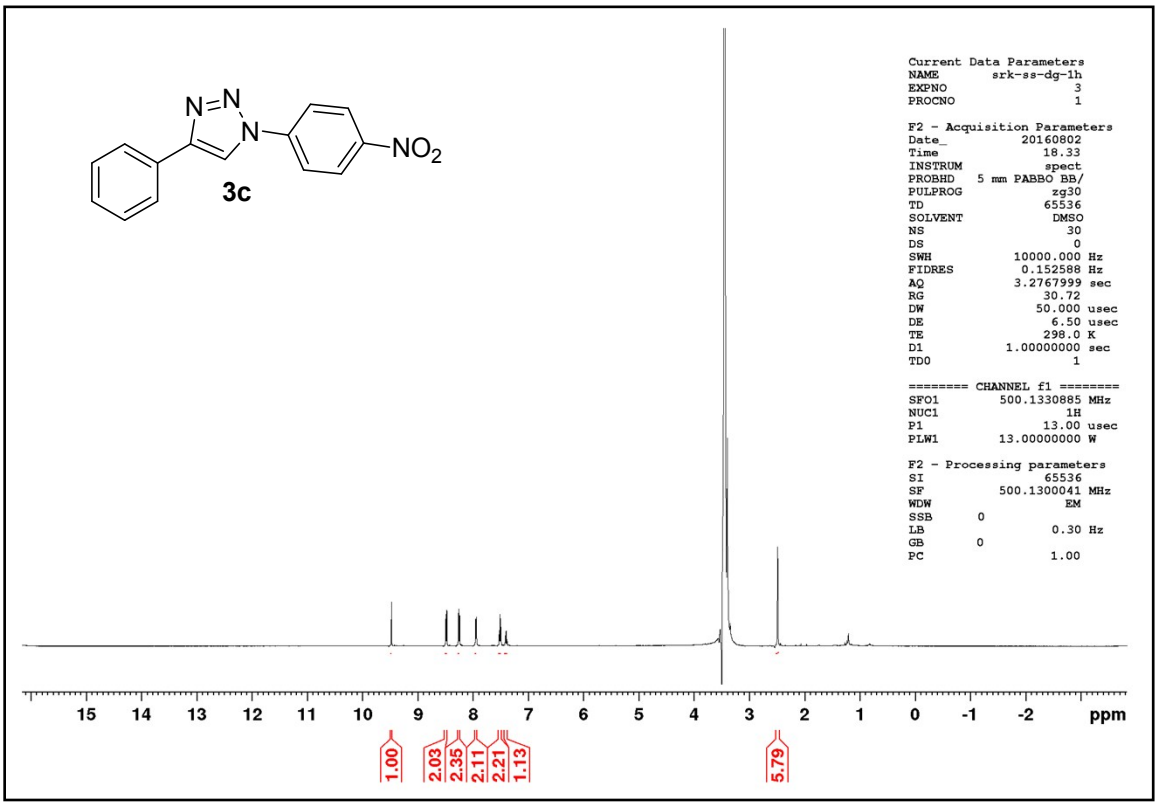
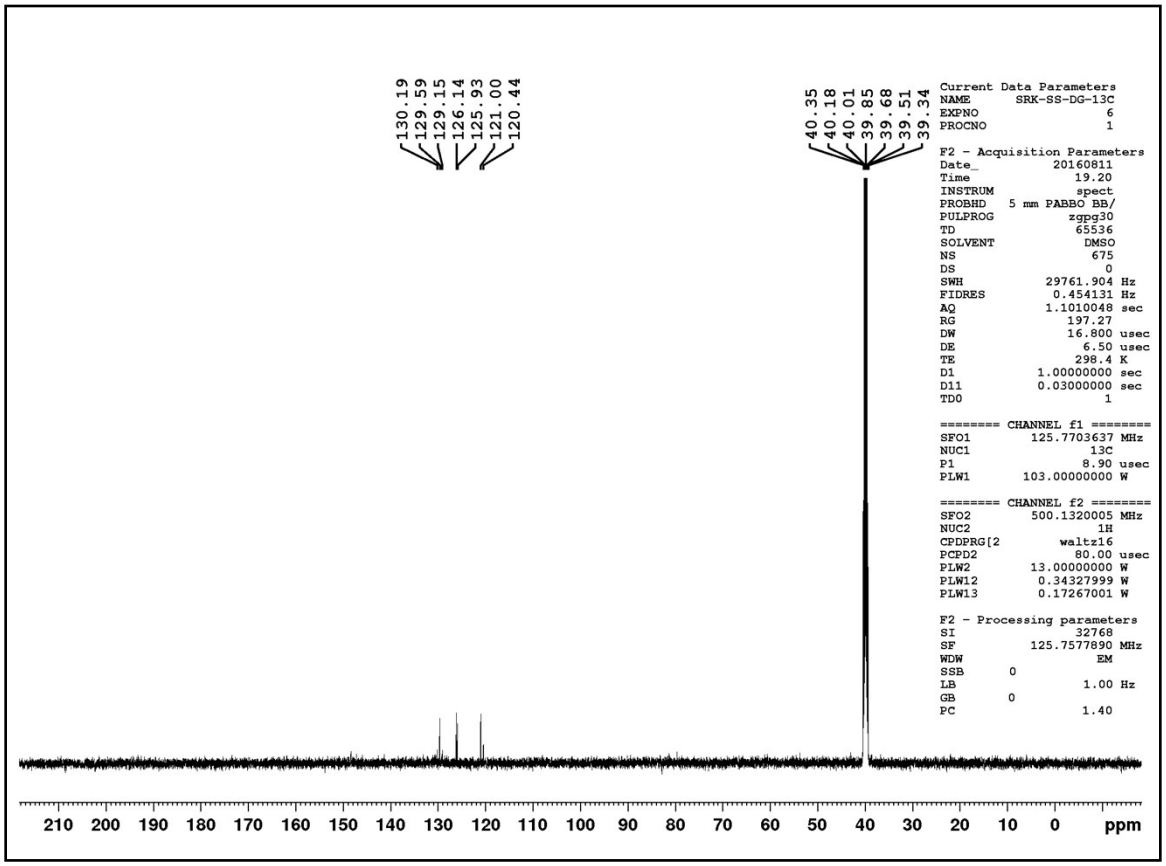
252.1131	1	C15H14N3O	252.1131	-0.2	6.7	1	100.00	10.5	even	ok

^{1}H NMR (500 MHz, DMSO-d6), ^{13}C NMR (125 MHz, DMSO-d6) and HRMS of compound **3c**





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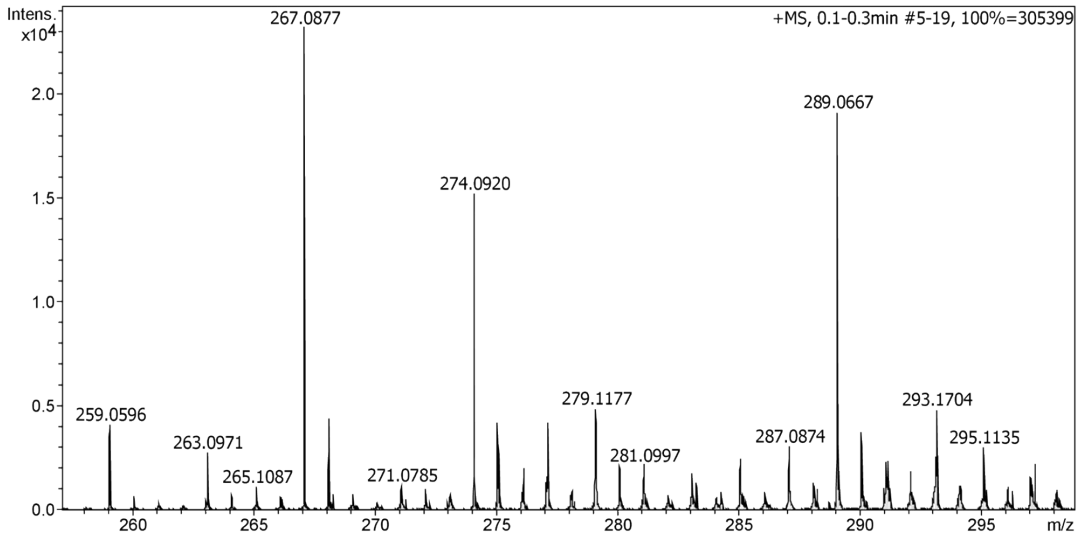

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