

**Ethylene mediates CuO NP-induced ultrastructural changes and oxidative stress in  
*Arabidopsis thaliana* leaves**

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**Table S1. List of primers used in this study**

<b>Name of the gene</b>	<b>Forward Primers</b>	<b>Reverse Primers</b>
<i>ACTIN2</i>	GGTATCGCTGACCGTATGAG	ATCTGCTGGAATGTGCTGAG
<i>MSD</i>	AACACCACCAGACTTATGT	GCCGTTGAACTTGATGAG
<i>APX1</i>	GTATCCACATTGCTCTTAGG	GCCACCAGTAACTTCAAC
<i>CAT2</i>	GAGAGGCAAGAACGATTC	AACGAGACAATGACAGTAA
<i>CAT3</i>	CCCATTCTACACCACAAAC	ACCCTTAGCACTGATTCC
<i>GPX4</i>	TTACACCGCTATCAATCG	AACAGCAACCTACTCTTC
<i>GRI</i>	TCCTCCTCTCCGTATCTG	CCGCCACCTTATCAATCT
<i>DHAR1</i>	GGTTGCTCTTGGTCATTAC	TTCTTAGCCTTGGTGTTCT
<i>FER1</i>	TCGTCTCACCTATCTCAG	TTGCTTCAATCTGCTCTC
<i>ETR1</i>	CTCCTTCTCCGTCGCTCTC	CCTCTCTCACACATACACACAC
<i>EIN2</i>	CGTTCTCAACCGCCTACAG	CGGACTCGCTCTCTGGTG
<i>EIN3</i>	GCCAGGAGTAGTAGGAACG	CATAACAAGCGATAGAGACAGAG
<i>ACS2</i>	TCATGGGAAAAGCTAGAGGTGGAAG	TCAACGGTTAATTTGAAATTGTCGG
<i>ACS6</i>	AAACCGATGGCTGCAACAACCTATGAT	TAAGTCTGTGCACGGACTAGCGGAG
<i>ACS8</i>	TGGGGTGATTTACTCCAACGATGATT	GACTCTCGATGCCTGCAGCCTCTAG

**Table. S2 Hydrodynamic size (nm) of CuO NPs**

<b>Different Concentrations of CuO NPs in DI water</b>	<b>Hydrodynamic Size (nm)</b>
50 mg/L	380 ± 9.5
100 mg/L	325.9 ± 22.13
200 mg/L	397.8 ± 28.2
300 mg/L	285.06 ± 13.02
400 mg/L	735.53 ± 35.03

Fig. S1. XRD characterization of CuO NPs

