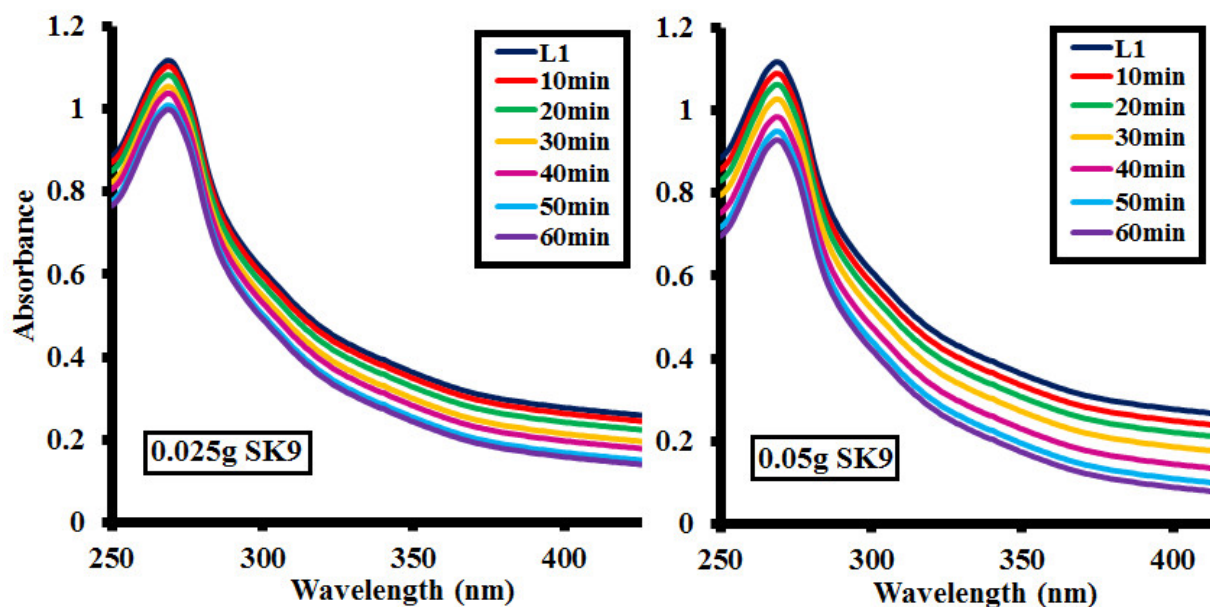


# ***i*-Propylammonium Lead Chloride Based Perovskite Photocatalysts for Depolymerization of Lignin Under UV Light**

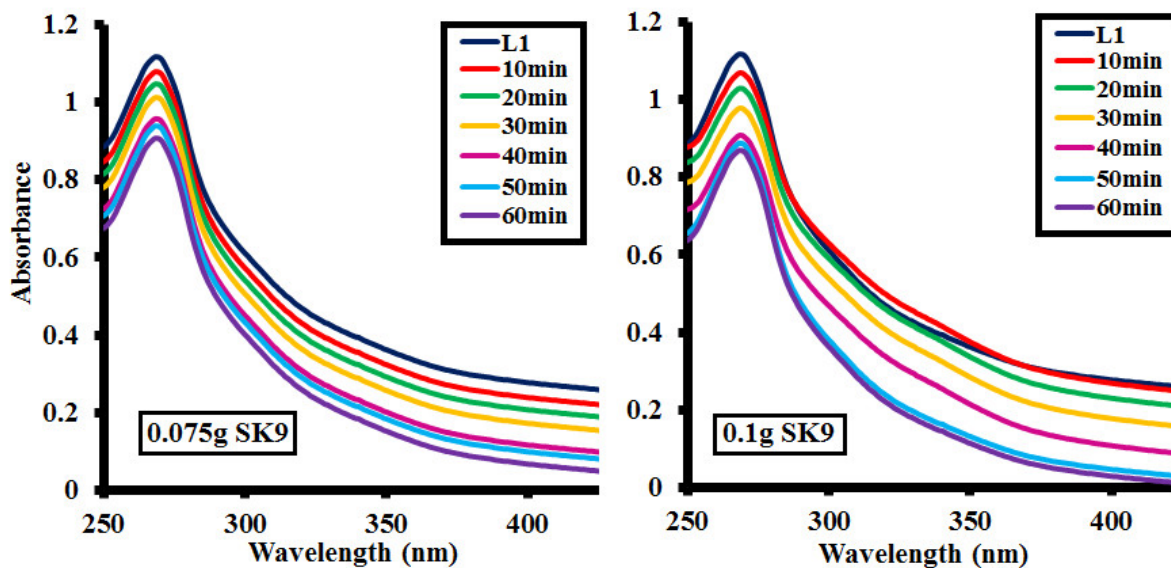
Samia Kausar <sup>1</sup>, Ataf Ali Altaf <sup>1,2,\*</sup>, Muhammad Hamayun <sup>1</sup>, Nasir Rasool <sup>3</sup>, Mahwish Hadait <sup>1</sup>, Arusa Akhtar <sup>1</sup>, Shabbir Muhammad <sup>4,5</sup>, Amin Badshah <sup>6</sup>, Syed Adnan Ali Shah <sup>7,8</sup> and Zainul Amiruddin Zakaria <sup>9,10,\*</sup>

**Supplemental Data**

## Supplemental Data



Effect of Catalyst Doses at Different Time Intervals



**Figure S1:** Photocatalytic Depolymerization of Lignin ( $L1_{100ppm}$ ) by different catalyst doses (0.025, 0.05, 0.075 and 0.1g) of SK9 at different Time Intervals



## Effect of Initial Lignin Concentrations at Different Time Intervals

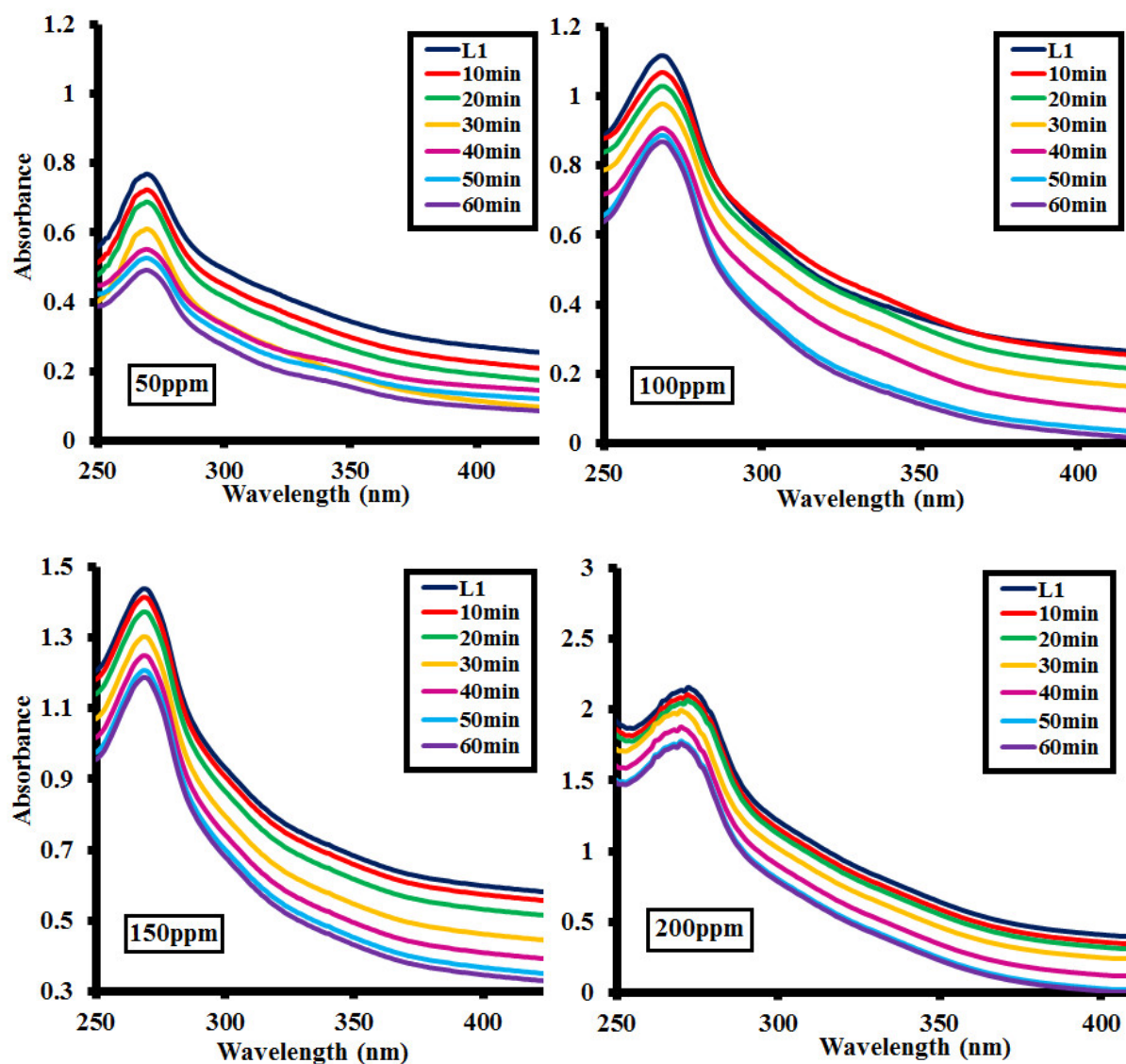
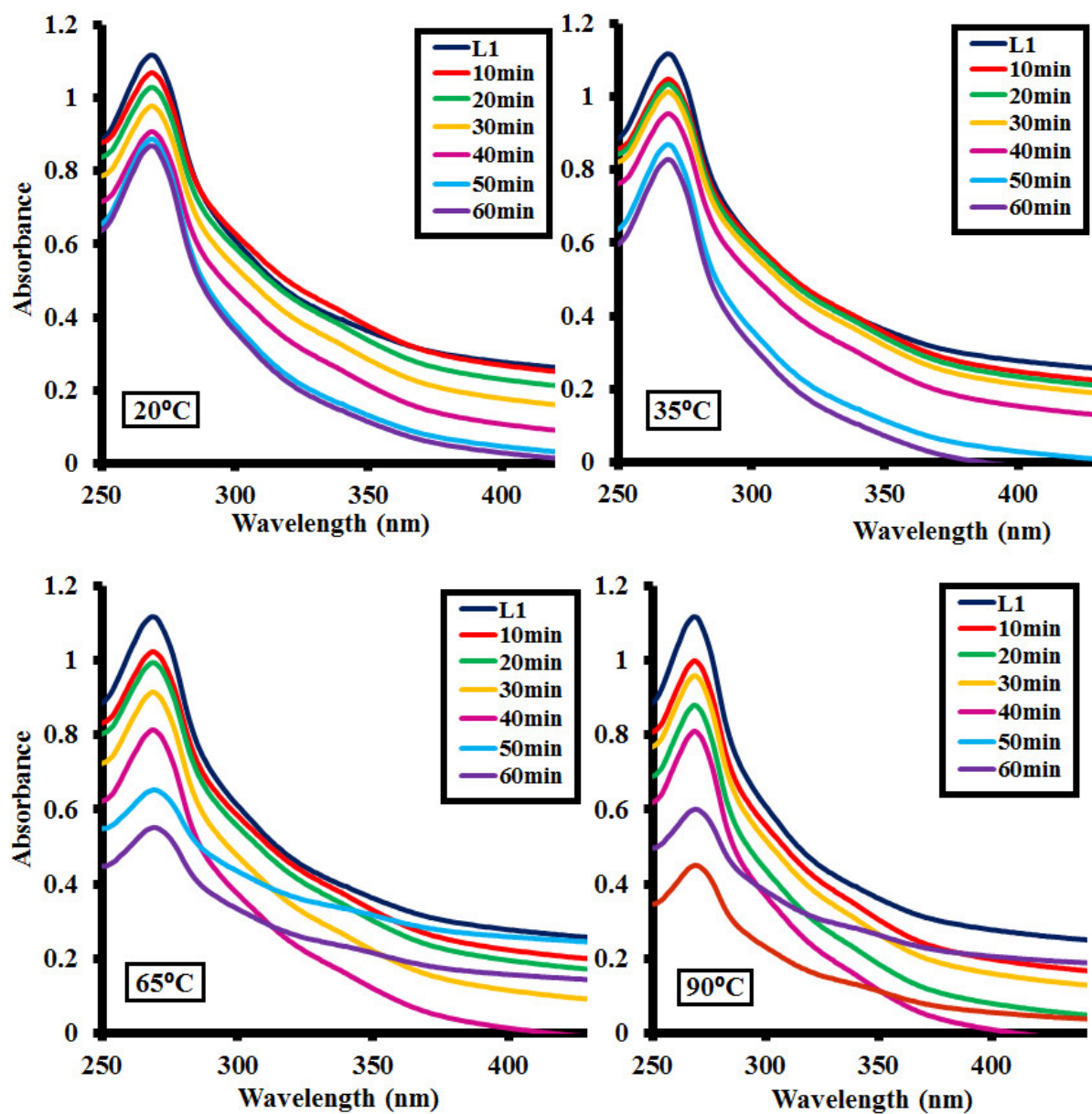


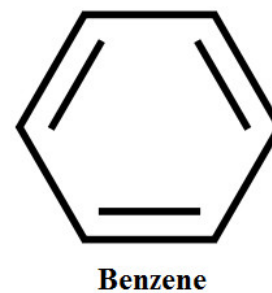
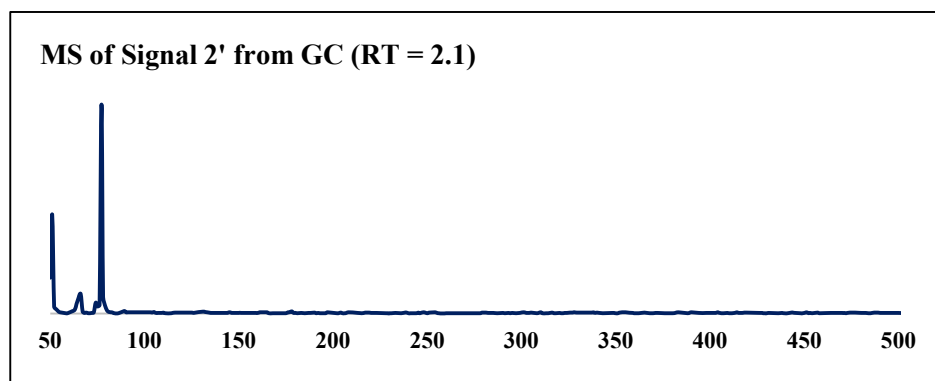
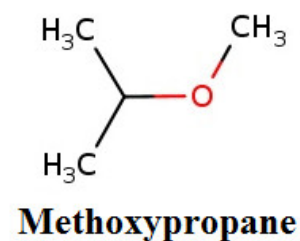
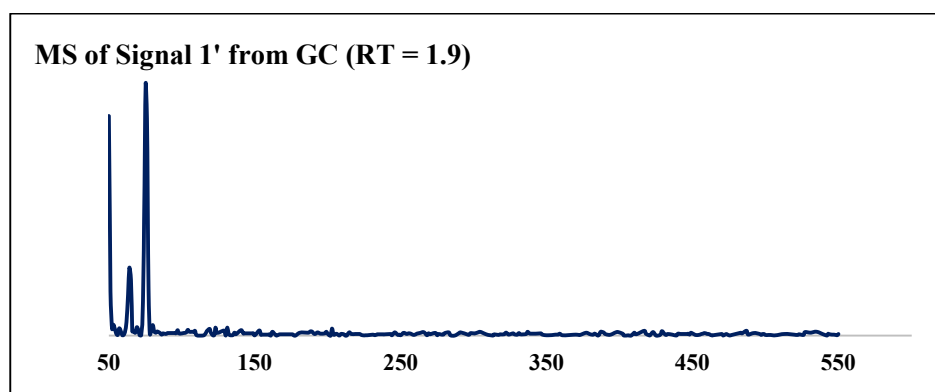
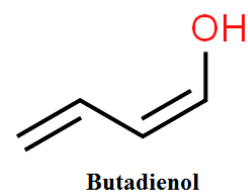
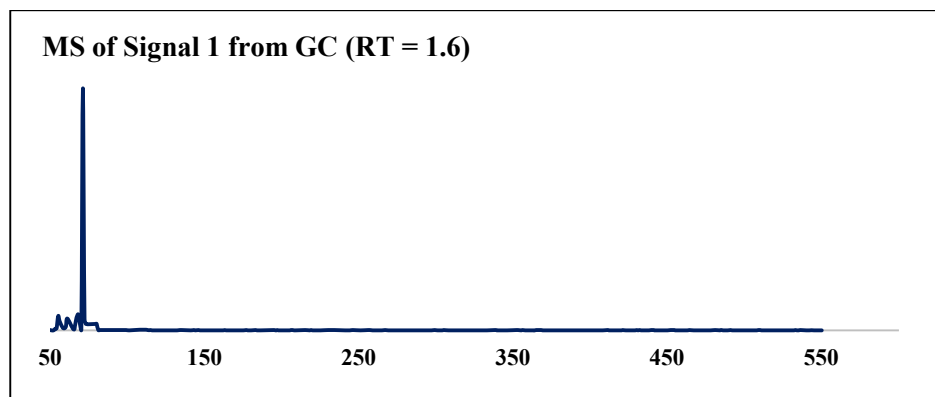
Figure S2: Photocatalytic Depolymerization of Different Initial Lignin Concentrations (50, 100, 150, 200ppm) by SK9 at different Time Intervals

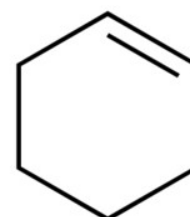
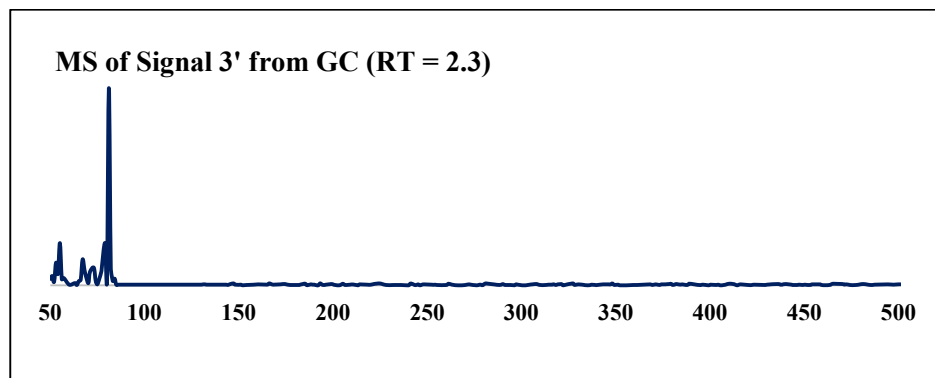
### Effect of Temperatures at Different Time Intervals



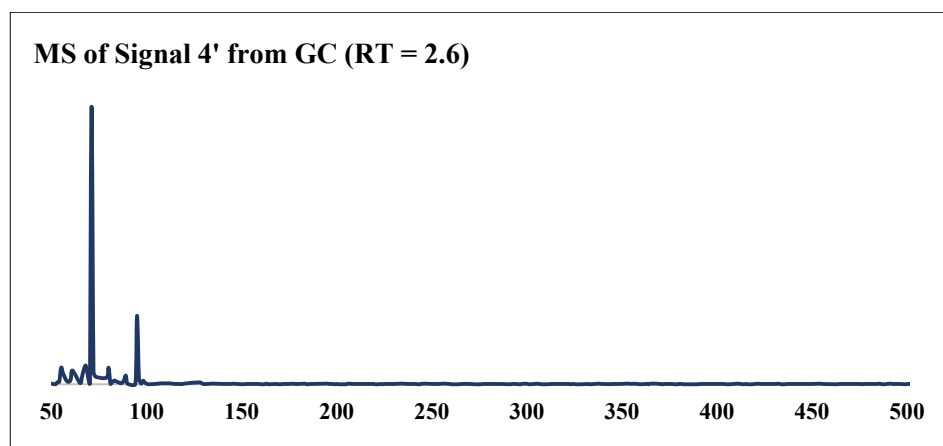
**Figure S3:** Photocatalytic Depolymerization of Lignin (L1<sub>100ppm</sub>) by SK9 at varying Temperatures (20, 35, 65, 90°C) at different Time Intervals

**S4: GCMS Analysis of Lignin Depolymerization Products L1-SK9 and L1-SK9 (90°C)**

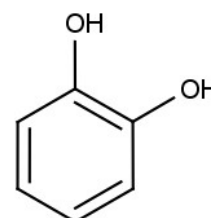
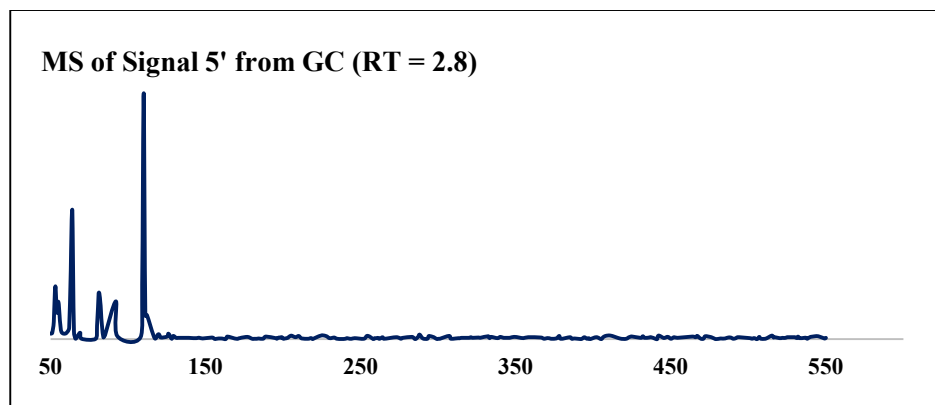




**Cyclohexene**

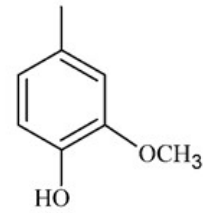
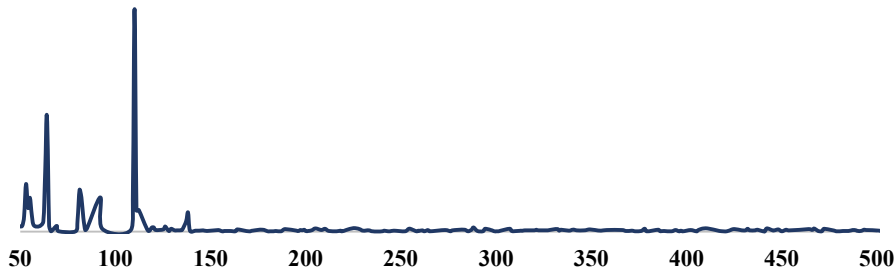


**Phenol**



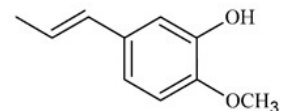
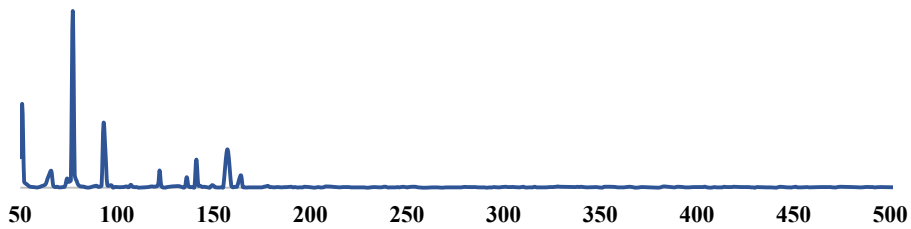
**Catechol**

MS of Signal 2 and 6' from GC (RT = 3.1)



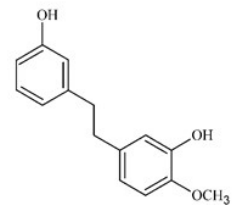
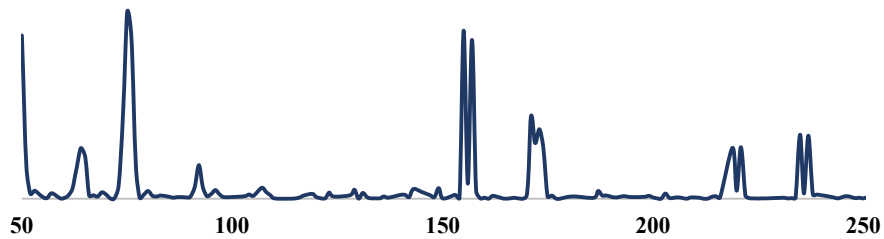
2-methoxy-4-methylphenol

MS of Signal 3 from GC (RT = 3.6)



2-methoxy-5-propenyl phenol

MS of Signal 4 from GC (RT = 3.8)



5-[2-(3-hydroxyphenyl)ethyl]-2-methoxyphenol (guaiacyl dimer)