



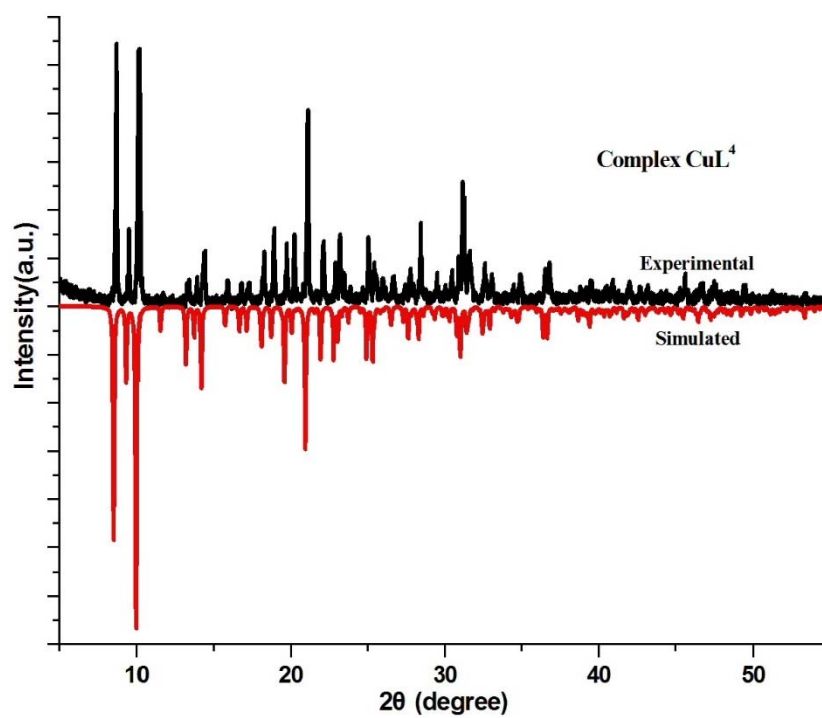
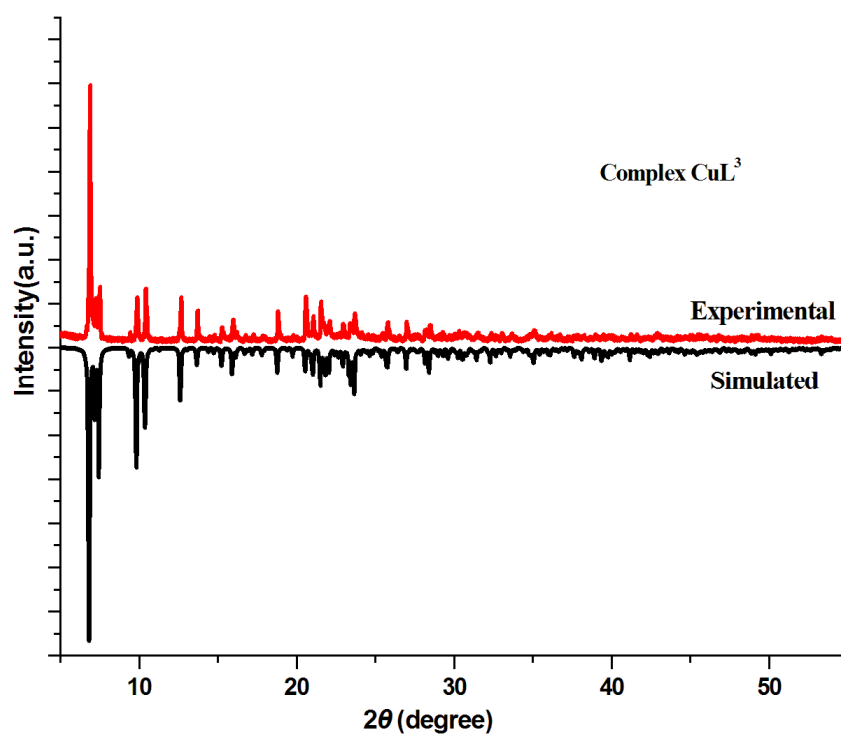
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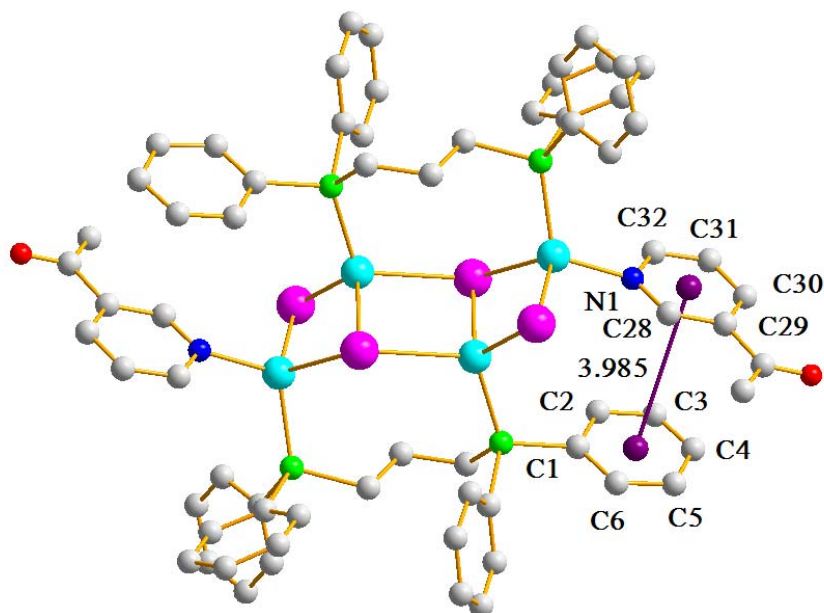
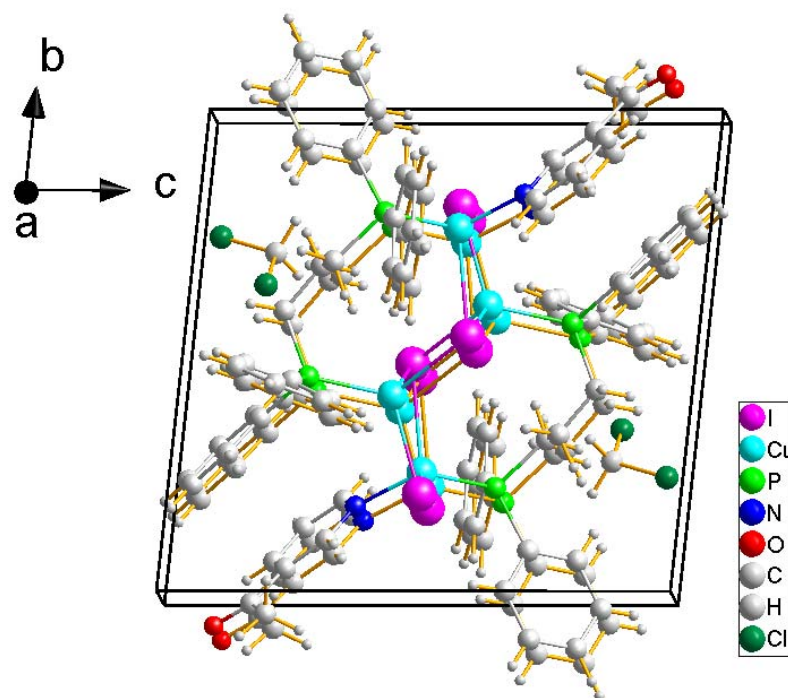
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**Supporting information for article:**

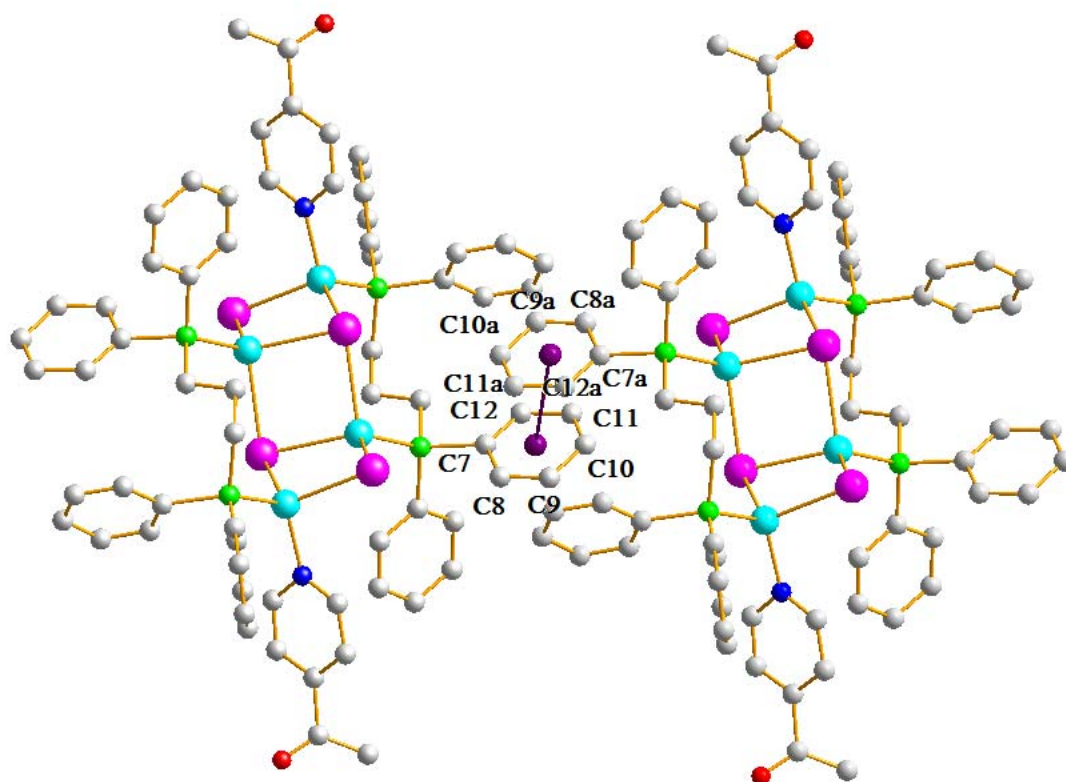
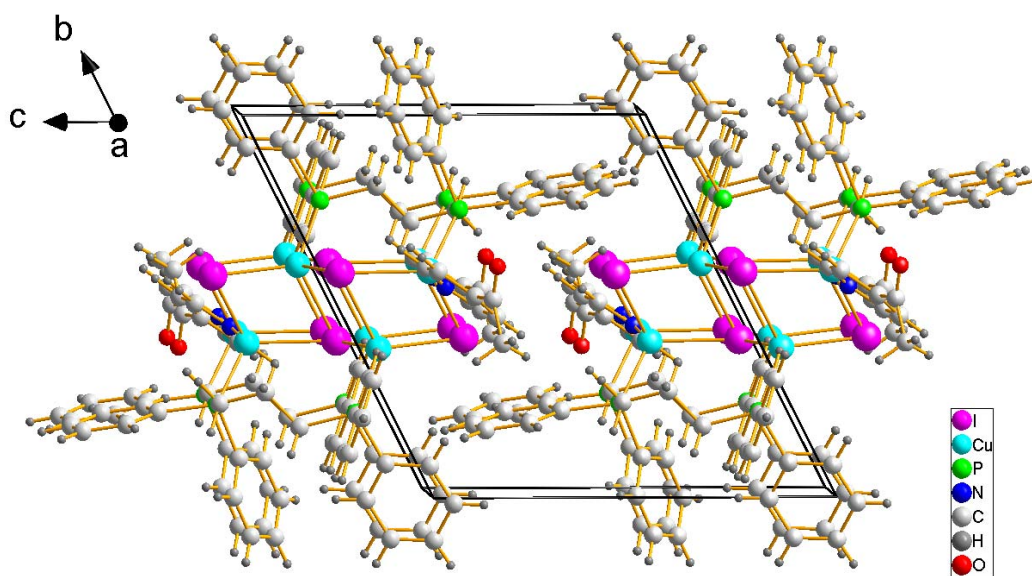
**Synthesis, structure and photophysical properties of two tetra-nuclear copper(I) iodide complexes based on acetylpyridine and diphosphine mixed ligands**

**Bing-Jun Cao, Ran Li and Xi-He Huang**

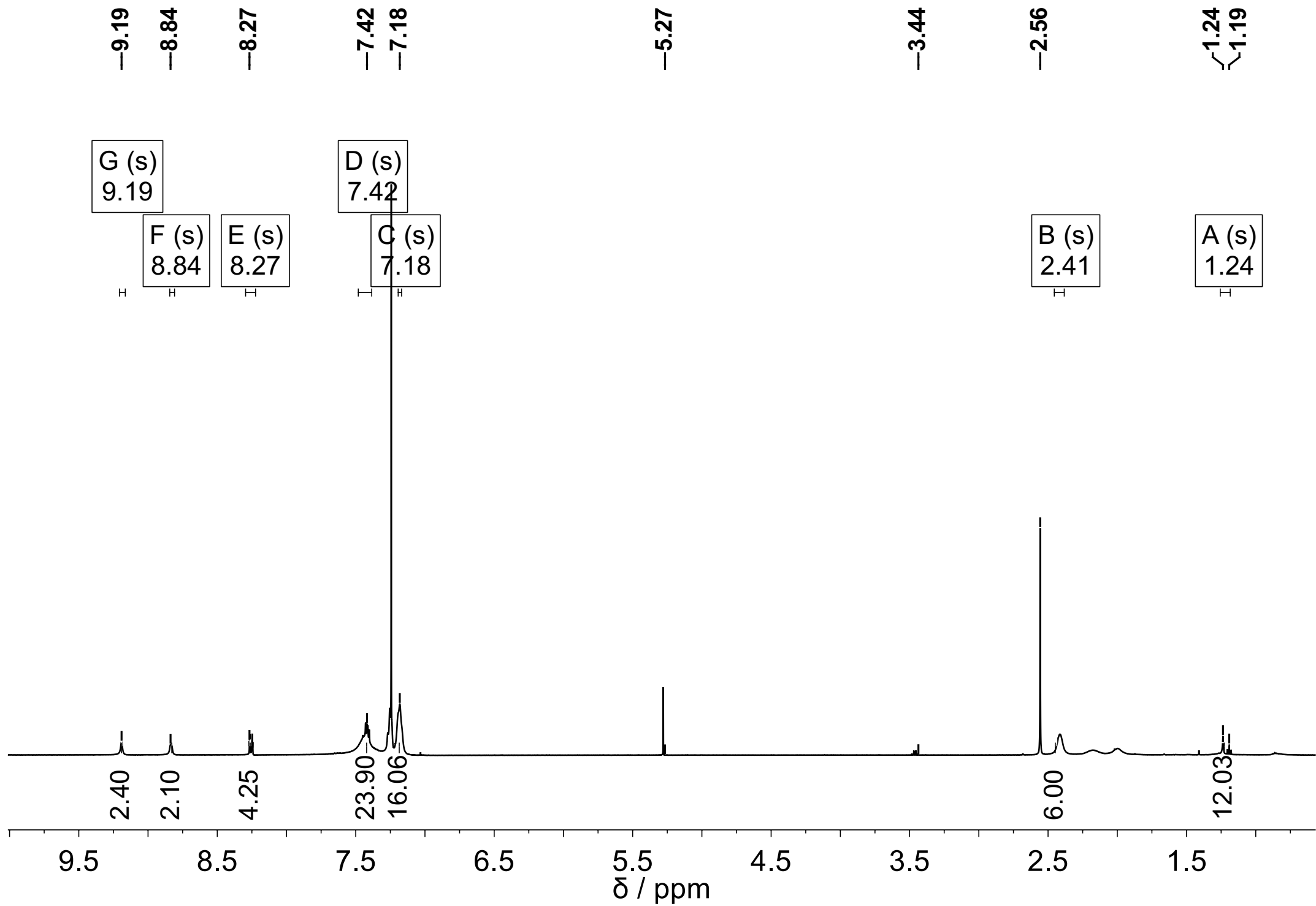


**Figure S1.** The experimental and simulated powder X-ray diffractions of  $\text{CuL}^3$  and  $\text{CuL}^4$ **Figure S2.** Packing diagrams of complex  $\text{CuL}^3$  (up), and view of the intra-cluster  $\pi \cdots \pi$  staking interactions (bottom). The purple ball represents the centroid of the phenyl or pyridine rings. The

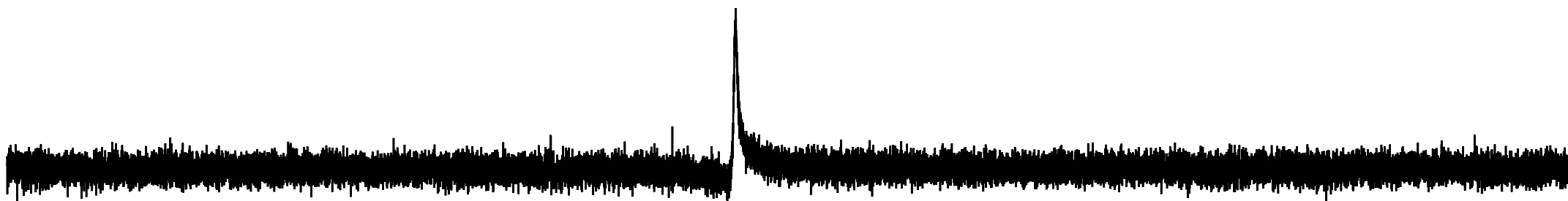
distance between the centroid of the two rings (C1–C6), and N1/C28–C32) are 3.958(6) Å. The dihedral angle between the two rings is 8.5(5)°. H atoms are omitted for clarity.



**Figure S3.** The packing diagrams of complex  $\text{CuL}^4$  (up), and view of the inter-cluster  $\pi \cdots \pi$  staking interactions (bottom). The purple ball represents the centroid of the phenyl rings. The benzene rings are parallel to each other. The distance between the centroid of the two rings is 3.816(9) Å [symmetry code: a) 2-x, -y, -z]. H atoms are omitted for clarity.



--17.25



160

120

80

40

0

$\delta / \text{ppm}$

-40

-80

-140

-200

