Experimental

Highly Diastereoselective Synthesis of Polycyclic Amines *via*-Redox Neutral C-H Functionalization

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Single crystals of suitable dimensions were chosen carefully for X-ray diffraction studies. The X-intensity data were collected at a temperature of 293(2) K on a Bruker Proteum2 CCD diffractometer equipped with an X-ray generator operating at 45 kV and 10 mA, using CuK_{α} radiation of wavelength 1.54178 Å. Data were collected for 24 frames per set with different settings of φ (0° and 90°), keeping the scan width of 0.5°, exposure time of 2 s, the sample to detector distance of 45.10 mm and 2θ value at 46.6°. The complete data sets were processed using *SAINT PLUS*.[1] The structures were solved by direct methods and refined by full-matrix least squares method on F^2 using *SHELXS* and *SHELXL* programs[2]. The geometrical calculations were carried out using the program *PLATON*.[3] The molecular and packing diagrams were generated using the software *MERCURY*.[4] The details of the crystal structure and data refinement are given in Table 1. The list of bond lengths and bond angles of the non-hydrogen atoms are given in Table 4 and Table 5 respectively. Figures **3c, 3p and 4c** represent the ORTEP of the molecule with thermal ellipsoids drawn at 50% probability.

References

(1). Bruker, (2012). *SAINT PLUS*, Bruker AXS Inc., Madison, Wisconsin, USA.

(2). G. M. Sheldrick, *Acta. Cryst.*, 2008, *A64*, 112.

(3). A. L. Spek,. *Acta. Cryst., A46*, 1990, C34.

(4). C. F. Macrae, I. J. Bruno, J. A. Chisholm, P. R. Edgington, P. McCabe, E. Pidcock, L. Rodriguez-Monge, R. Taylor, J. van de Streek, and P.A.Wood, *J. Appl. Cryst.*, 2008, **41**, 466.