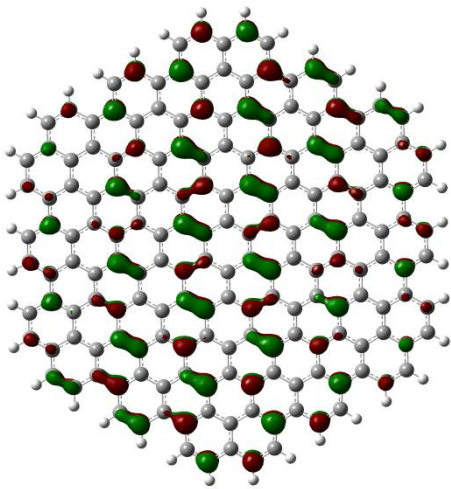
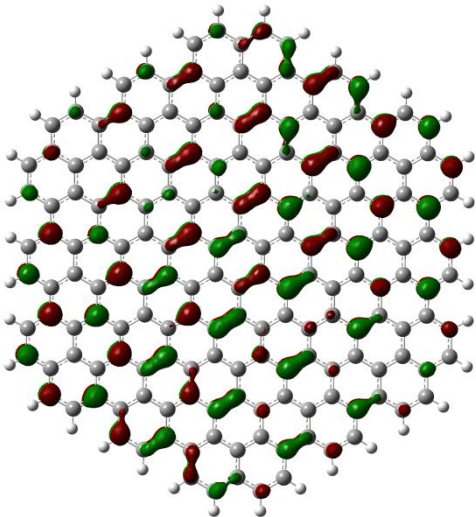
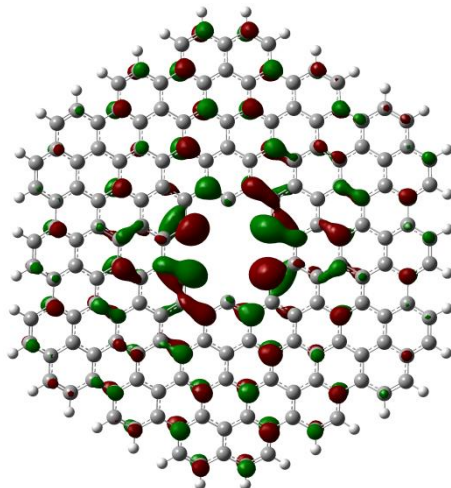
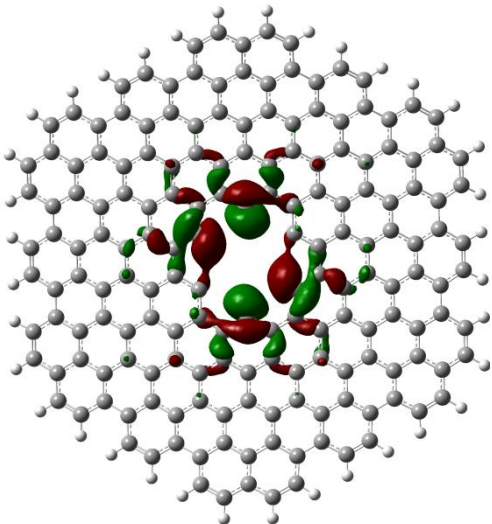


Supplementary Materials

Calculated HOMO and LUMO for original HGNS (AC6 and AC4), defect HGNS (AC4-d6 and AC6-d6), and epoxy-HGNS for core and edge (AC4-epoxy core and edge) which indicated the electron density HGNS.

	HOMO	LUMO
AC6		
AC6-d6		
AC4	