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Interactions of Aromatic Compounds with Graphene[1] HUGO ROMERO, HUMBERTO GUTIERREZ, Physics Department, Pennsylvania State University, PETER EKLUND, Physics Department,Materials Science & Engineering Department, Pennsylvania State University — We have used back-gated graphene field effect transistors (FETs) on Si/SiO_2 substrates to study the interactions of graphene with six-membered ring aromatic compounds C_6H_{2n} (n = 3-6). Electronic detection occurs through the shift of the of the source-drain resistance maximum ("Dirac peak") with gate voltage. The size of the *positive* shift of the Dirac peak is found to be linear in to the π electron count of the molecule, suggesting the coupling between these π electrons and those in the graphene may be responsible for the observed effects.

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