## Is 2-D Graphite an Ultimate Large Hydrocarbon? IV. Structure and Energy Spectra of Large Polycyclic Aromatic Hydrocarbons with Different Symmetry<sup>\*</sup>

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The structure and energy spectra of large polycyclic aromatic hydrocarbons (PAHs) with different symmetry and edge structure have been studied by quantum chemical methods. It is shown, that if the electron correlation is taken into account, the energy gap in the spectra of the one-electron excitation  $\Delta E$  is different from zero as the number of  $\pi$ -centres of the PAHs, N, tends to infinity (N  $\rightarrow \infty$ ). Hydrocarbons with different edge structures but with the same symmetry have different energy gaps when N tends to infinity. Hydrocarbons with different symmetry but with the same edge structures have similar energy gap values.

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