Nano two-state constant modules using graphene sheets

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In future, if we can create plane single-layer graphene sheets and connect them vertically or in parallel by some means, the designs presented in the following figures would make it possible to produce objects with nano-scale physical properties, in both opened and closed states. As a result, they could be parts of nano-scale filters, electronic devices, or any nanoscale fine-tuning parameters.

Fig. 1 Three-view drawing of an opened state graphene module

Here, we use four sheets of graphene, each with 34 carbon atoms, for the opened state. Two of the sheets (the blue and green ones) are set vertically and two more (black and grey) are placed horizontally to them. When viewed from the top, the black graphene sheet is visible and the grey one is beneath it.

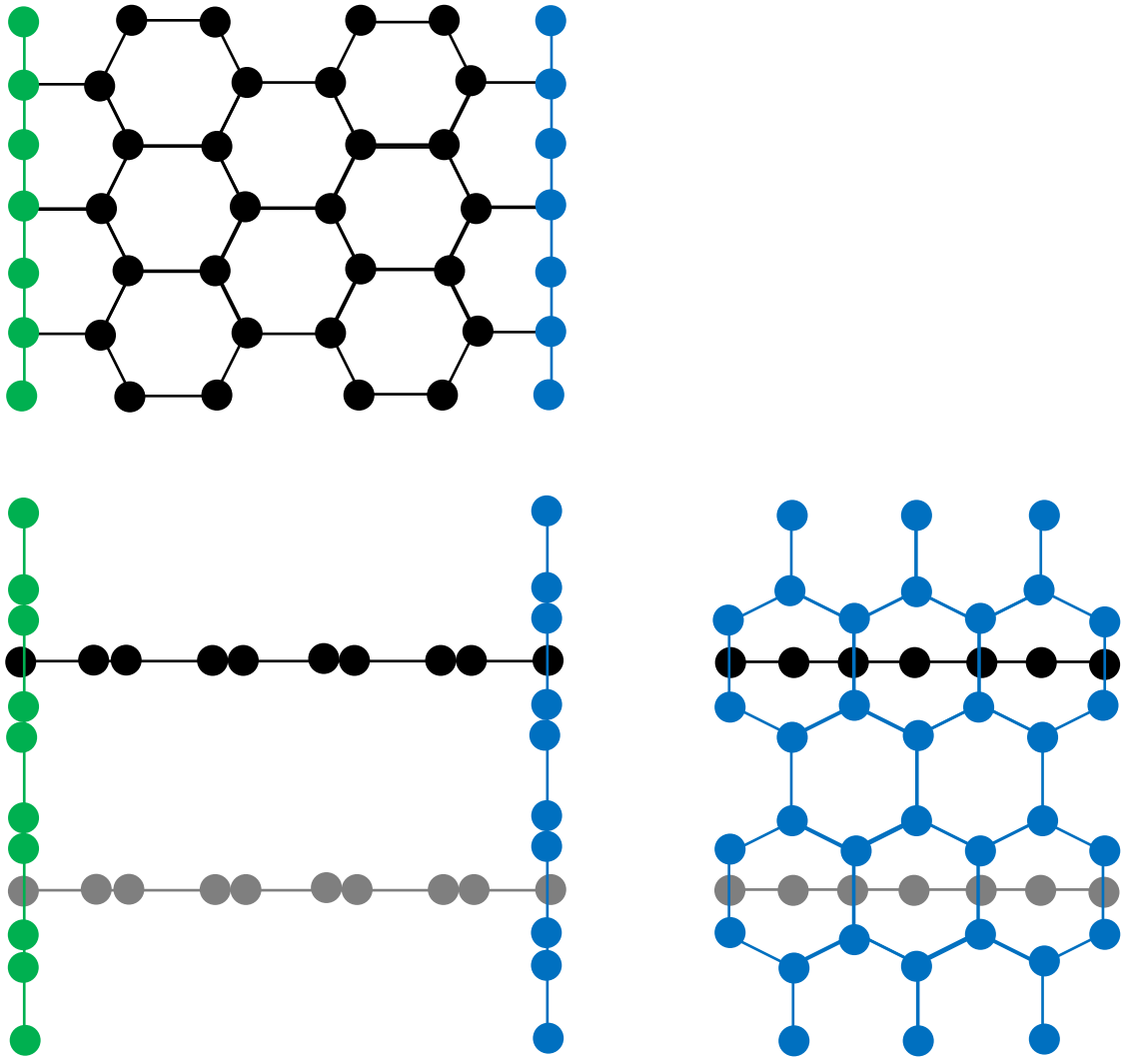

Fig. 2 Three view drawing of a closed state graphene module

The closed state involves adding another graphene (or germanene…) sheet with 32 carbon atoms (here colored red) between the black and grey sheets. When viewed from the top again, the red graphene sheet is shifted slightly to the side from the black sheet. It closes the holes of the opened state.