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(54) Title: METHODS FOR MANUFACTURING ARCHITECTURAL CONSTRUCTS

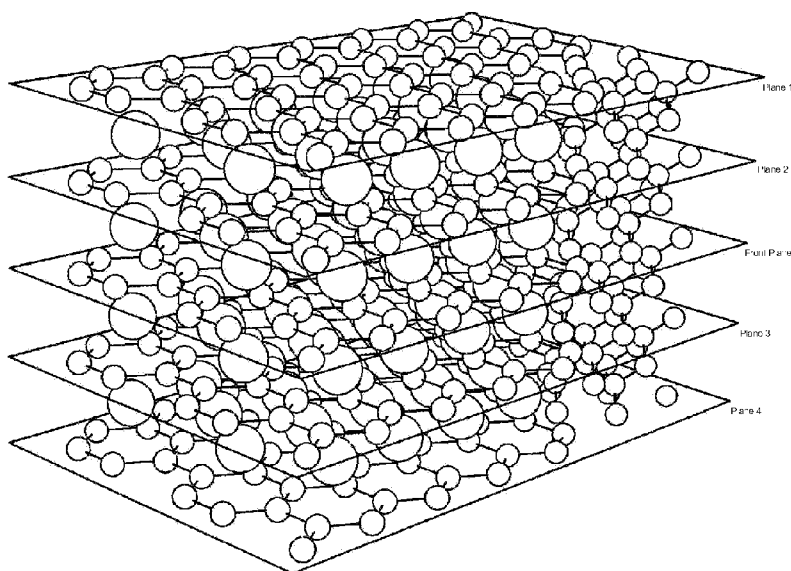


FIG. 18B

(57) Abstract: An architectural construct is a synthetic material that includes a matrix characterization of different crystals engineered to exhibit certain properties. An architectural construct can be fabricated by a process involving layer deposition, formation, exfoliation and spacing. In one aspect, purified methane can be dehydrogenated onto a substrate by applying heat through the substrate. Deposited carbon can form a plurality of layers of a matrix characterization of crystallized carbon through self-organization. The layers can be exfoliated and spaced to configure parallel orientation at a desired spacing and thickness using selected precursors and applying heat, pressure, or both. The desired architectural construct can further be stabilized and doped to exhibit desired properties.





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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C01B 31/02; B29D 22/00; B29D 23/00; F17C 11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: graphene, boron nitride, dehydrogenation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2011-0041519 A1 (ROY E. MCALISTER) 24 February 2011 See paragraphs [0029], [0030]	1-4 5-19
Y A	US 2006-0216222 A1 (BOR Z. JANG) 28 September 2006 See abstract; page 5; claim 1	1-4 5-19
A	US 6503584 B1 (ROY E. MCALISTER) 07 January 2003 See claims 1,3	1-19
A	WO 01-13032 A1 (HENNARA INVESTMENTS LIMITED et al.) 22 February 2001 See claims 1,3,6	1-19

 Further documents are listed in the continuation of Box C. See patent family annex.

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