Nanoporous carbon materials possess unique surface and textural properties. High surface area nanoporous carbon materials with controllable pore size and framework structure are highly required in various technological fields including separation, sensing and energy storage.

Fabrication of ultra-high surface area nanoporous graphitic carbon materials with controllable pore volume and framework structure using natural bio-mass and synthetic π-electron rich fullerene crystals as carbon source.

**Advanced Research Topics**

The π-electron rich fullerene (C_{60}) crystals designed at liquid-liquid interface can be thermally converted into high surface area nanoporous graphitic carbon nanomaterial, which shows excellent vapor sensing performance sensitive to toxic aromatic solvent vapors.

- SEM images of C_{60} rod & tube
- SEM images of nanoporous carbon rod & tube
- HR-TEM image of nanoporous carbon tubes showing graphitic framework structure. Inset: QCM data showing vapor sensing performance of the materials sensitive to aromatic solvent vapors.

**Publications**


**Applied area and future prospects**

- Well-defined 1D, 2D, and 3D nanostructures of fullerene C_{60} can be produced at liquid-liquid interface.
- The π-electron rich fullerene crystals function as a potential source of high surface area graphitic carbons sensitive to aromatic toxic solvent vapors.

**Issues for technology transfer**

- Successful production of high surface area nanoporous graphitic carbon materials using fullerene crystals as a π-electron carbon source.
- Excellent materials for sensing toxic aromatic solvent vapors.

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