Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

Nitrogen-Doped Porous Carbon Materials Generated *via* Conjugated Microporous Polymer Precursors for CO_2 Capture and Energy Storage

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Contents:

Experimental section

Chemicals

1,3,5-triethynylbenzene, 2,4,6-trichloro-1,3,5-triazine, 1,3,5-tribromobenzene, tetrakis (triphenylphosphine) palladium, copper (I) iodide, trimethylamine, anhydrous N,N –dimethylformamide (DMF) and tetrahydrofuran were all purchased from Adamas. Ethanol, methanol, acetone, chloroform and potassium hydroxide were all purchased from Kelong. All chemicals were used as received without any further purification.

Characterisation

FT-IR: Fourier transform infrared (FT-IR) spectroscopy studies were conducted on a Nicolet 560 Fourier-transform IR-spectrometer.

XPS: X-ray photoelectron spectroscopy (XPS) was carried out on a Kratos ASAM 800, performing at 12 kV and 15 mA with a monochromatic Al Kα source (hν = 1486.6 eV). Conventional deconvolution method is used for the analysis of N 1s spectrum in XPS spectra: 1) Shirley type background; (2) Line shape, Lorentzian:Gaussian = 80%; (3) Full width at half maximum of all the components = 2 eV.

SEM: The scanning electron microscope (SEM) studies were carried out at a JEOL JSM-5900LV microscope with a field emission cathode.

XRD: X-ray diffraction (XRD) patterns were measured with a Philips X'Pert PRO MPD.

Raman Spectroscopy: Raman spectra was recorded on a LabRAM HR Raman Microscope with an excitation length of 633 nm.

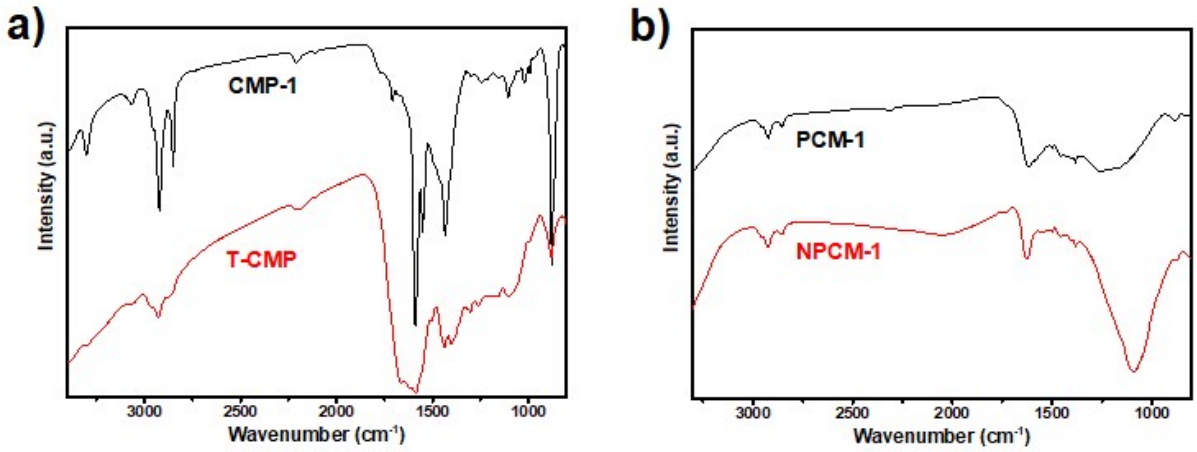

Figure S1. FT-IR spectra: (a) CMP-1 and TCMP-1, (b) PCM-1 and NPCM-1.

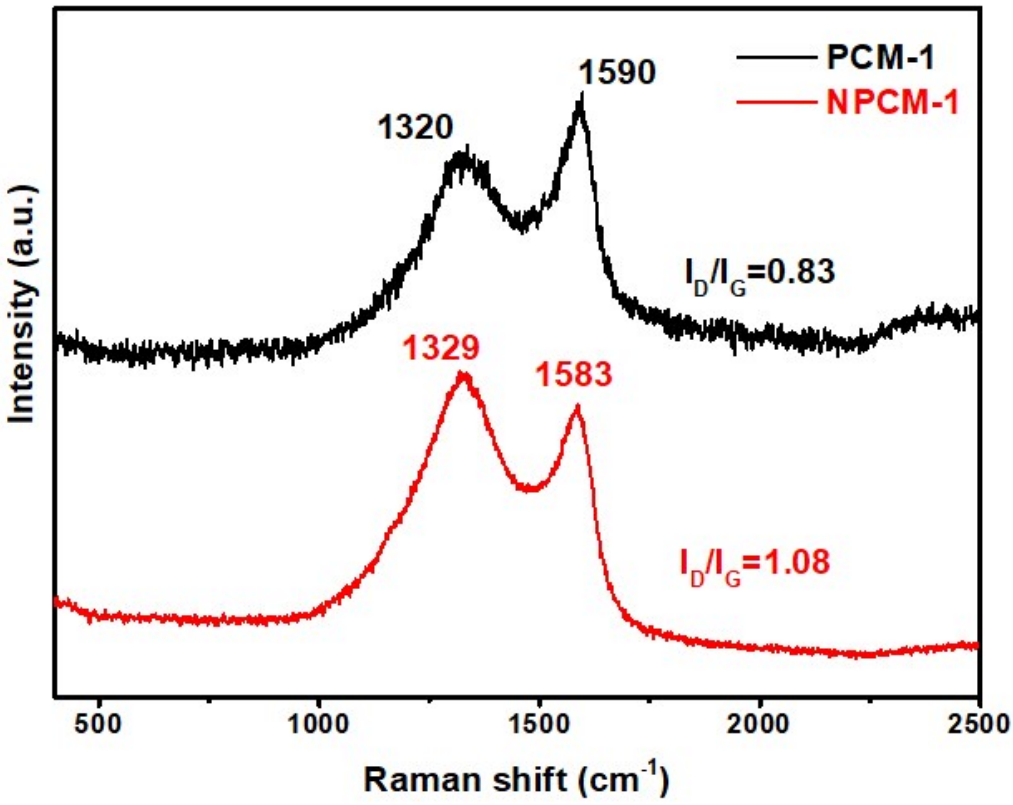

Figure S2. Raman spectra of PCM-1 and NPCM-1.

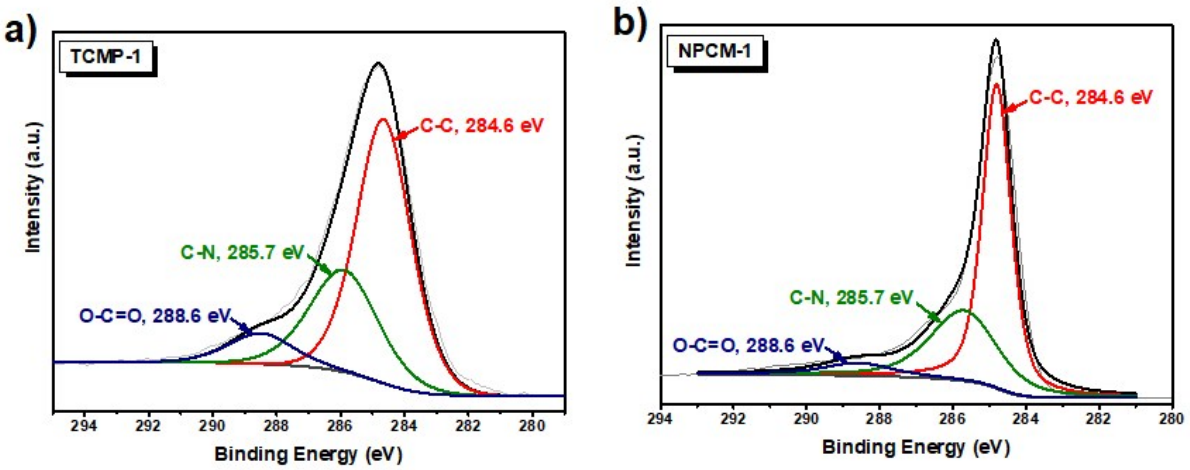

Figure S3. XPS spectrum of C 1s binding energy profiles: (a) TCMP-1, (b) NPCM-1.

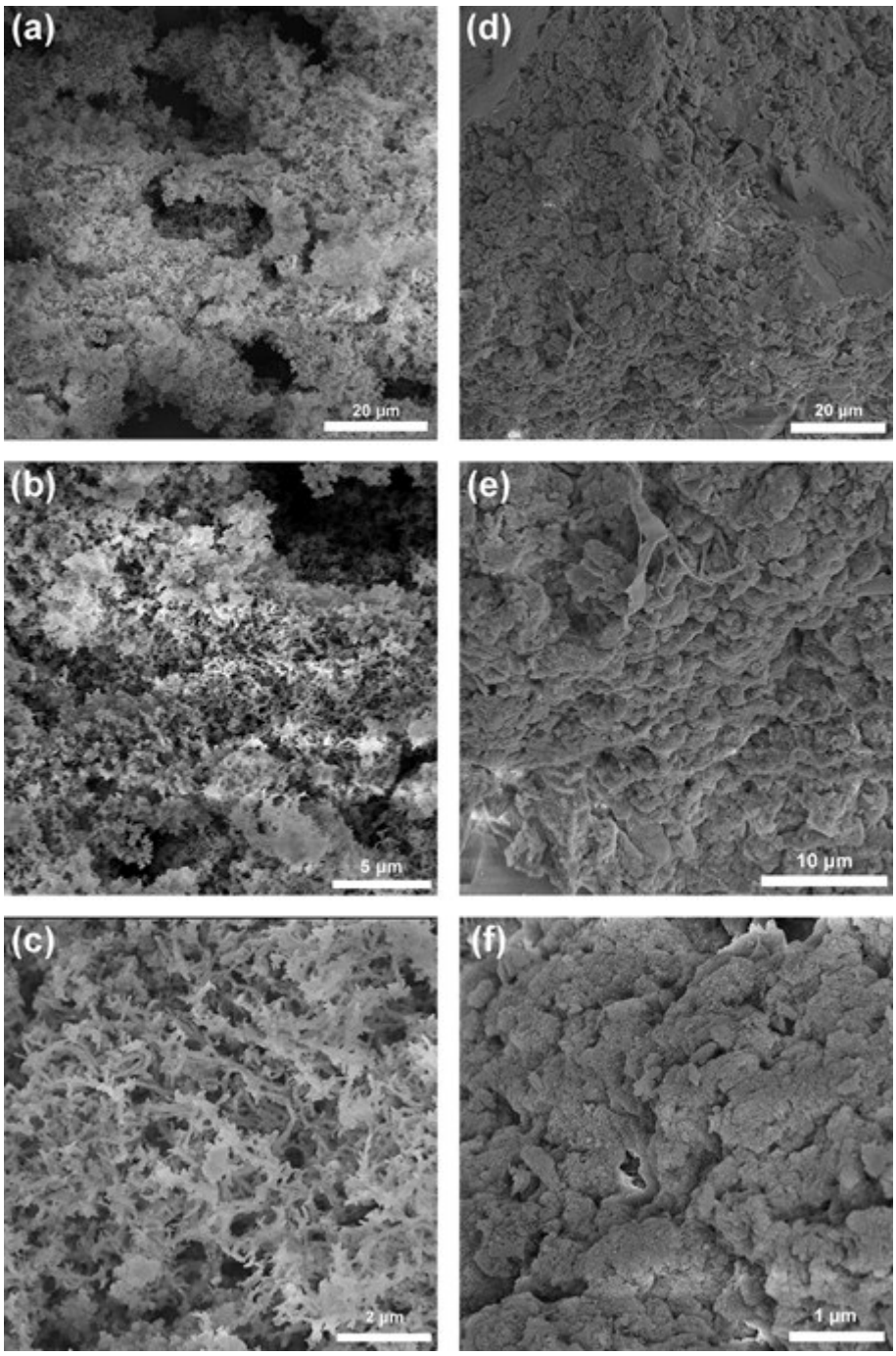

Figure S4. (a-c) SEM images of CMP-1 at different magnifications. (d-f) SEM images of TCMP-1 at different magnifications.

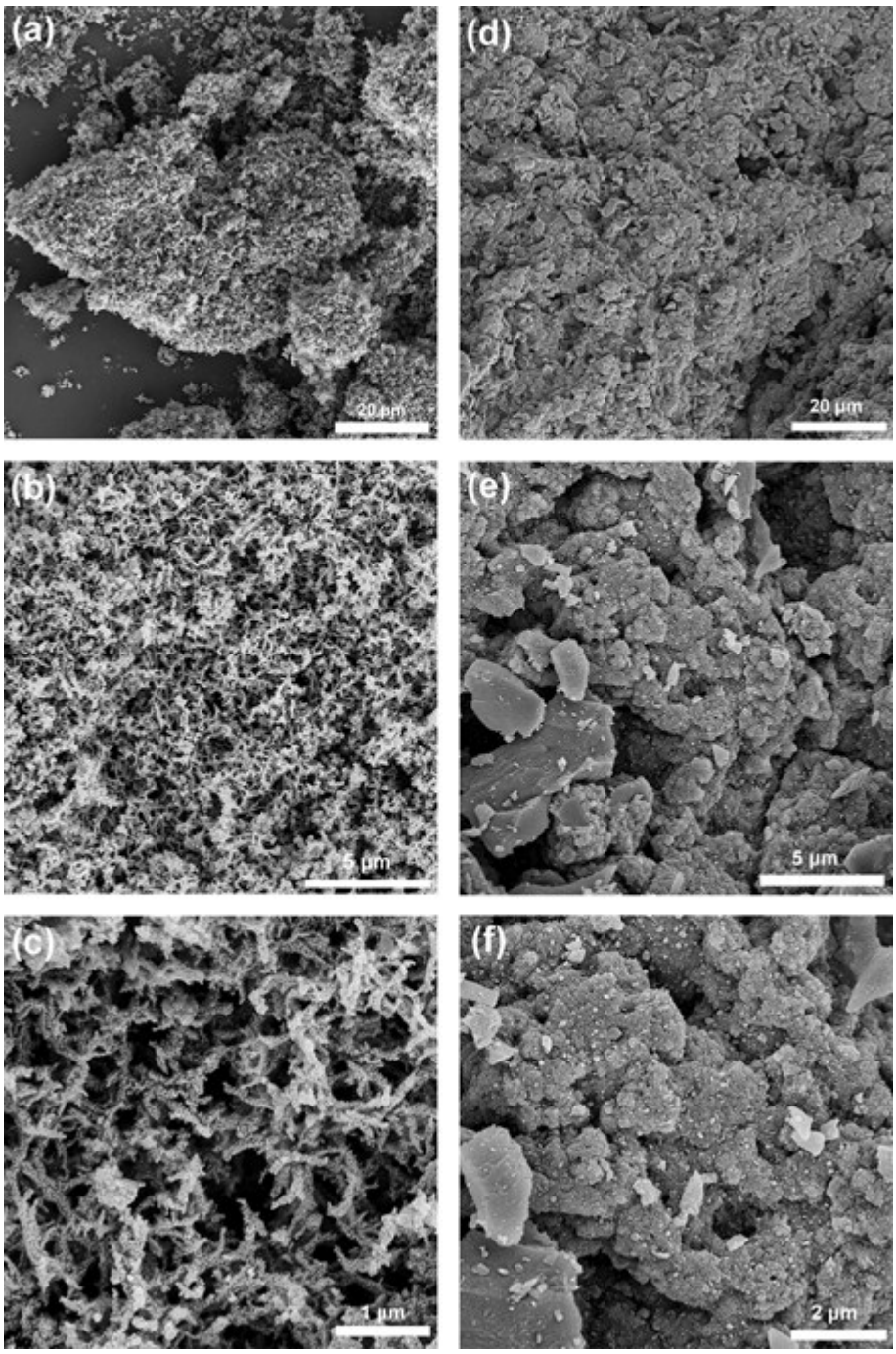

Figure S5. (a-c) SEM images of PCM-1 at different magnifications. (d-f) SEM images of NPCM-1 at different magnifications.

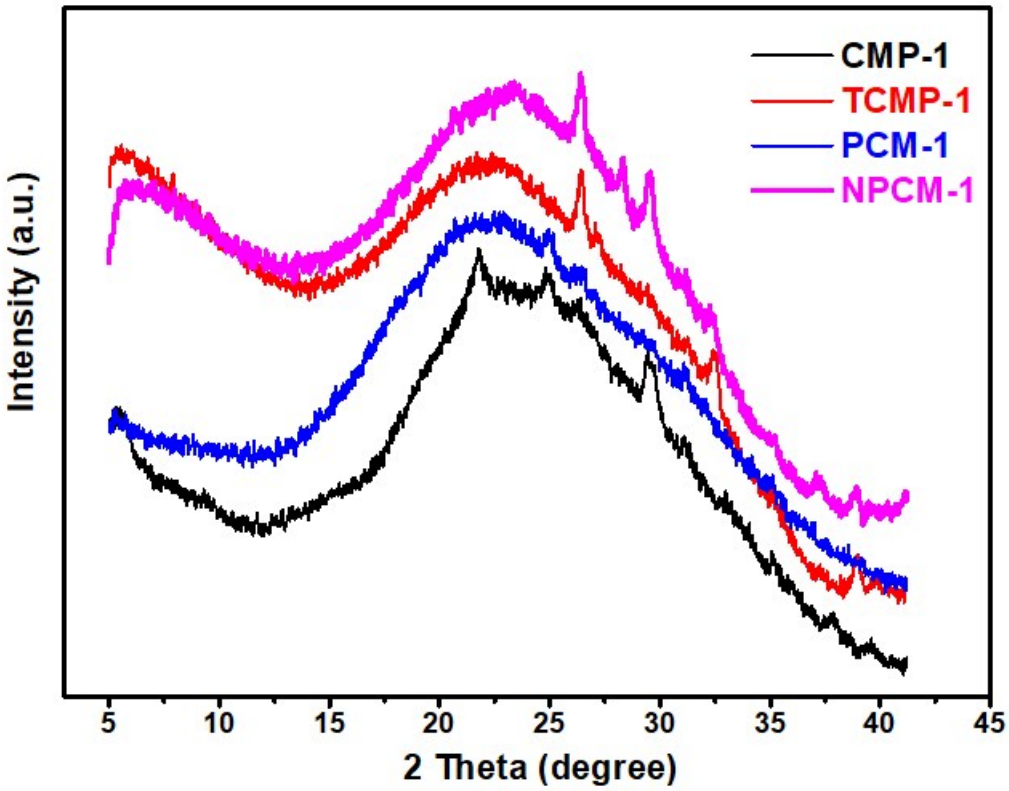

Figure S6. XRD patterns of CMP-1, TCMP-1, PCM-1 and NPCM-1.

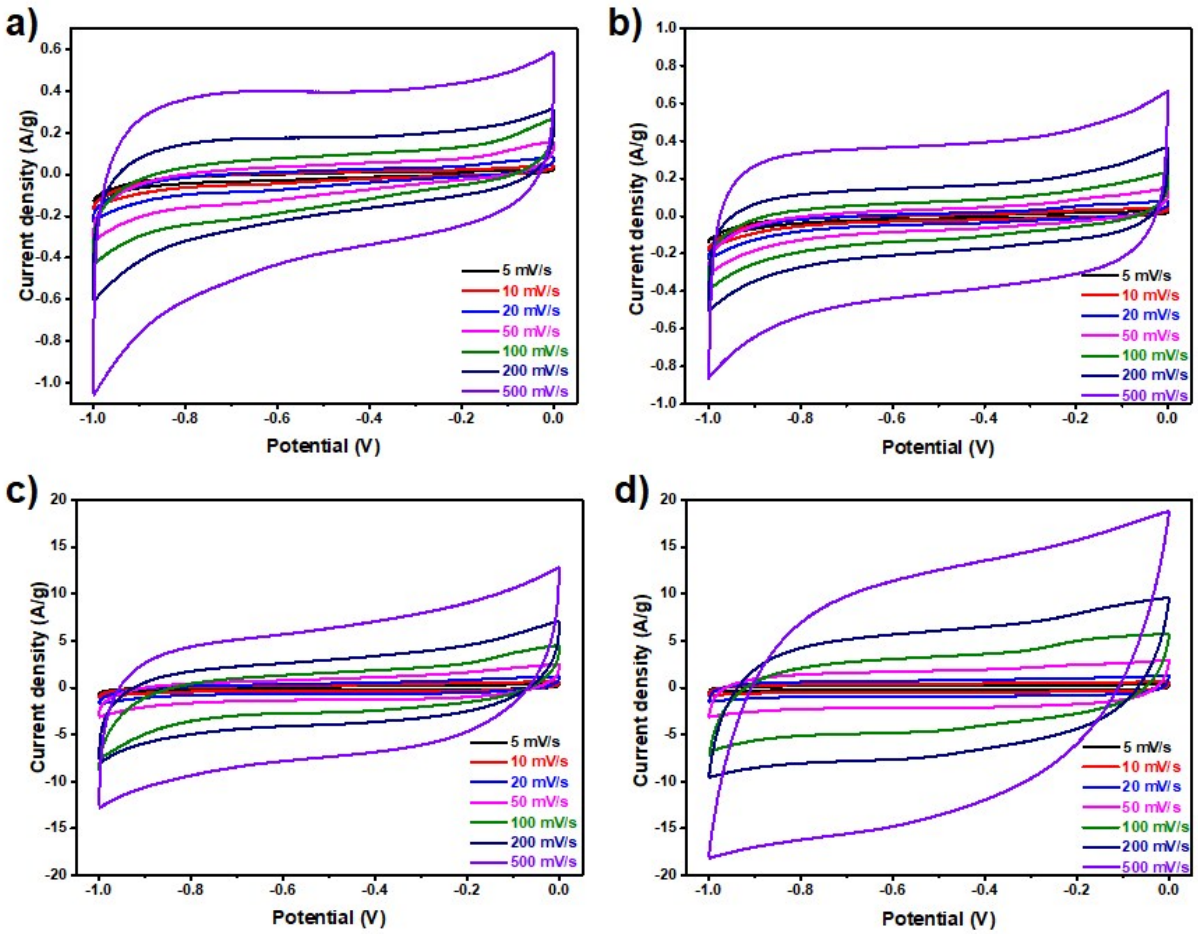

Figure S7. Cyclic voltammograms at different scan rates: (a) CMP-1, (b) TCMP-1, (c) PCM-1, (d) NPCM-1.

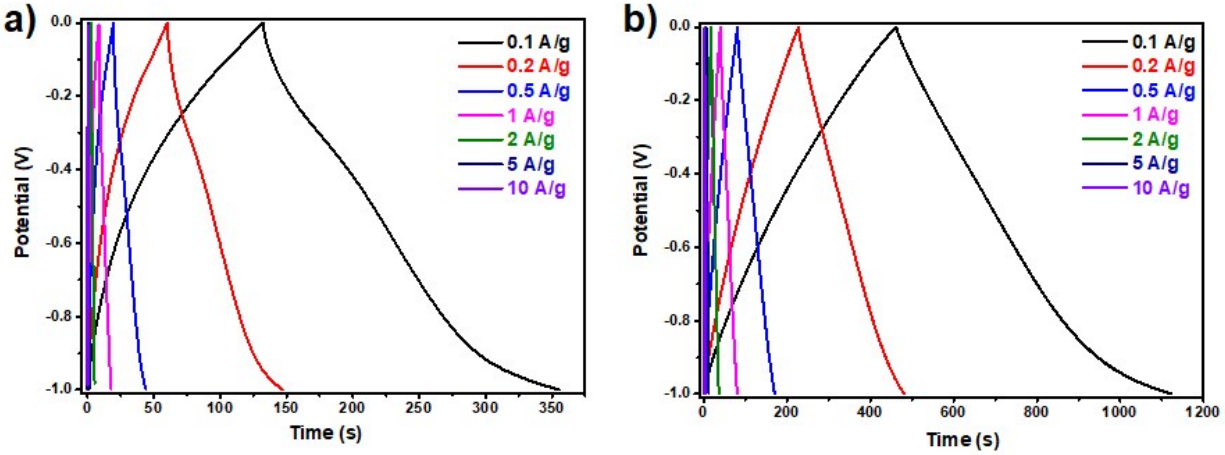

Figure S8. Galvanostatic charge-dicharge curves at different current densities: (a) PCM-1, (b) NPCM-1.