

Abstract Submitted  
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**Unconventional dimerization in mesogenic semi-phasmidic type carboxylic acid\*** SHIN-WOONG KANG, SEUNG-YEON JEONG, DENA MAE AGRA-KOOIJMAN, SATYENDRA KUMAR, Department of Physics, Kent State University, VEENA PRASAD, SANJAY VARSHNEY, Centre for Liquid Crystal Research, Bangalore, INDIA — The nematic and columnar mesophases formed by a semi-phasmidic type carboxylic acid are investigated by DSC, X-ray scattering, FTIR spectroscopy, and polarizing optical microscopy. FTIR spectroscopy and X-ray results confirm that two semi-phasmidic type carboxylic acid molecules form a mesogenic dimer through inter-molecular hydrogen bonding. X-ray diffraction results obtained under *in-situ* magnetic field reveal unique characteristics that set them apart from conventional linear dimers formed via hydrogen bonding. These dimers possess negative dielectric and diamagnetic anisotropies. Values of the length scales corresponding to the diffraction peaks and their orientation relative to the magnetic field strongly suggest the formation of a “bent-core-like” mesogenic dimers rather than conventional coplanar linear dimers. \*Supported by grant NSF/DMR-086991.

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