

Electronic Supplementary Information (ESI)

**A Photostable AIEgen for Nucleolus and Mitochondria Imaging with
Organelle-Specific Emission**

Chris Y. Y. Yu,^{ab,†} Weijie Zhang,^{ab,†} Ryan T. K. Kwok,^{ab} Chris W. T. Leung,^{ab} Jacky W.

Y. Lam^{ab} and Ben Zhong Tang^{abc,}*

^a HKUST Shenzhen Research Institute, No. 9 Yuexing 1st Road, South Area, Hi-tech Park, Nanshan, Shenzhen 518057, China.

^b Department of Chemistry, Hong Kong Branch of Chinese National Engineering Research Center for Tissue Restoration and Reconstruction, Institute for Advanced Study, Division of Biomedical Engineering, Division of Life Science, State Key Laboratory of Molecular Neuroscience, Institute of Molecular Functional Materials, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China

^c Guangdong Innovative Research Team, SCUT-HKUST Joint Research Laboratory, State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

[†] These authors contributed equally to this work.

*Corresponding author: Department of Chemistry, HKUST, Clear Water Bay, Kowloon, Hong Kong, China. Tel: 852-2358-7375; Fax: 852-2358-1594; Email: tangbenz@ust.hk (B. Z. Tang)

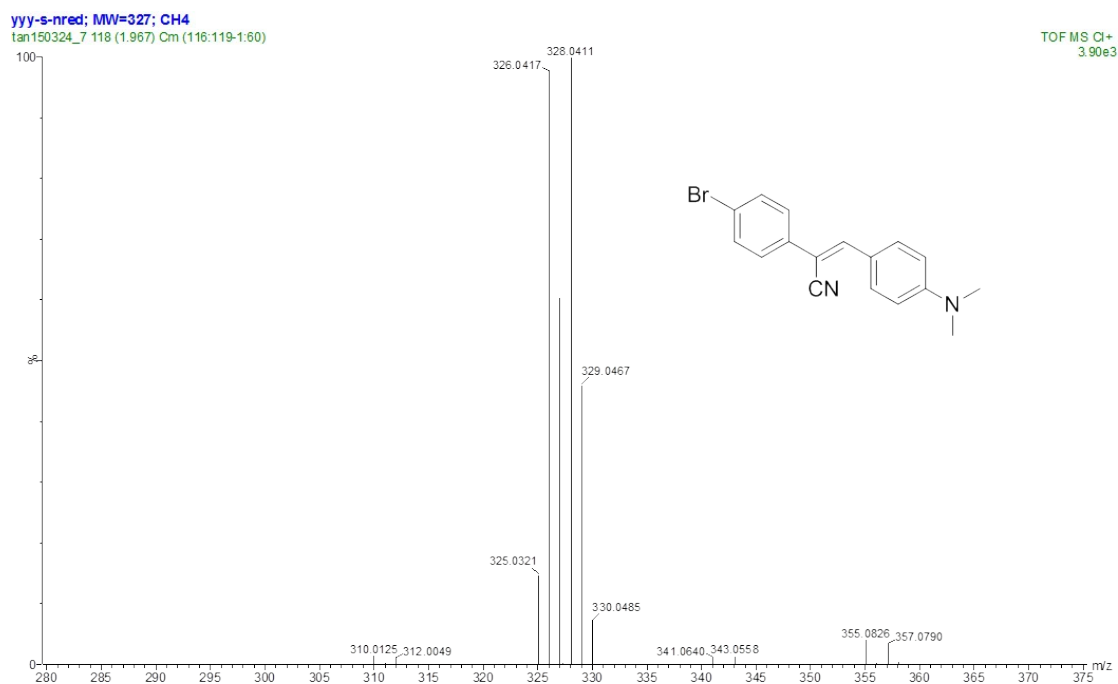


Fig. S1 High resolution mass spectrum of **3**.

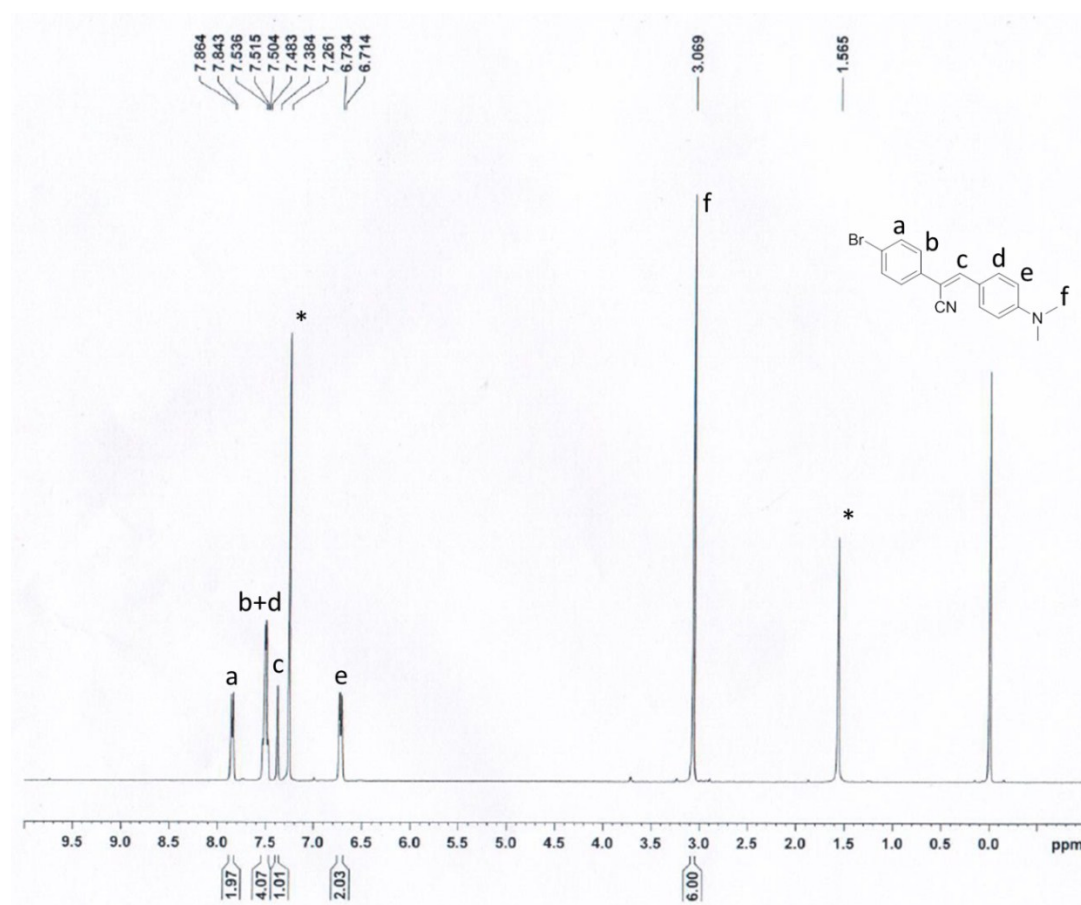


Fig. S2 ¹H NMR spectrum of **3** in CDCl₃.

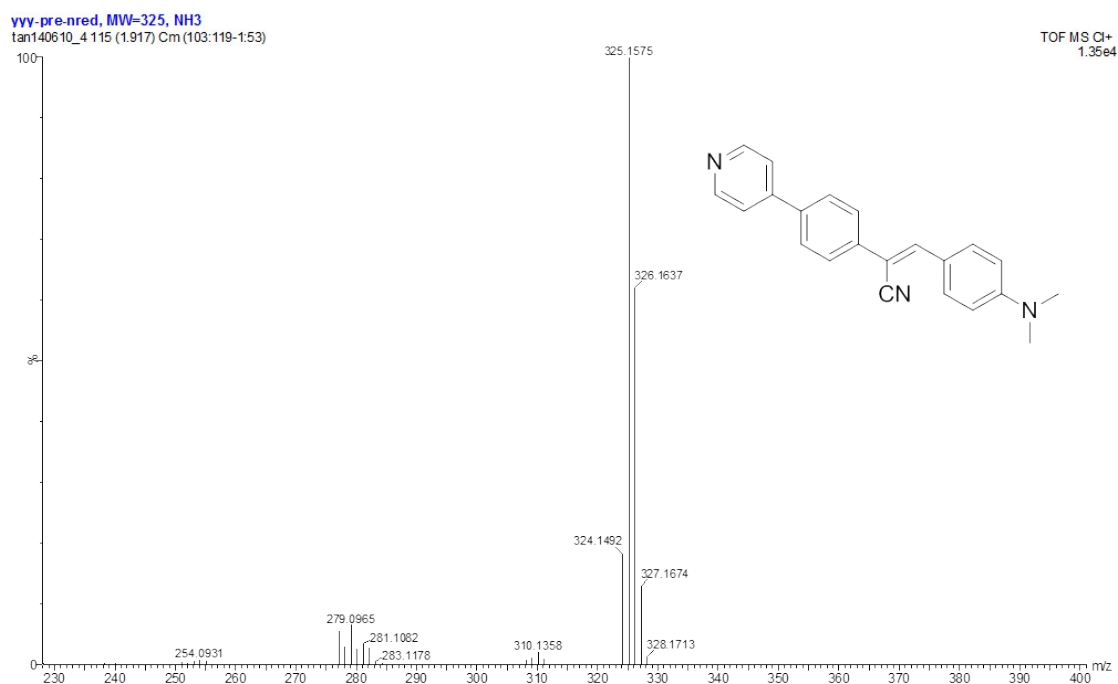


Fig. S3 High resolution mass spectrum of **5**.

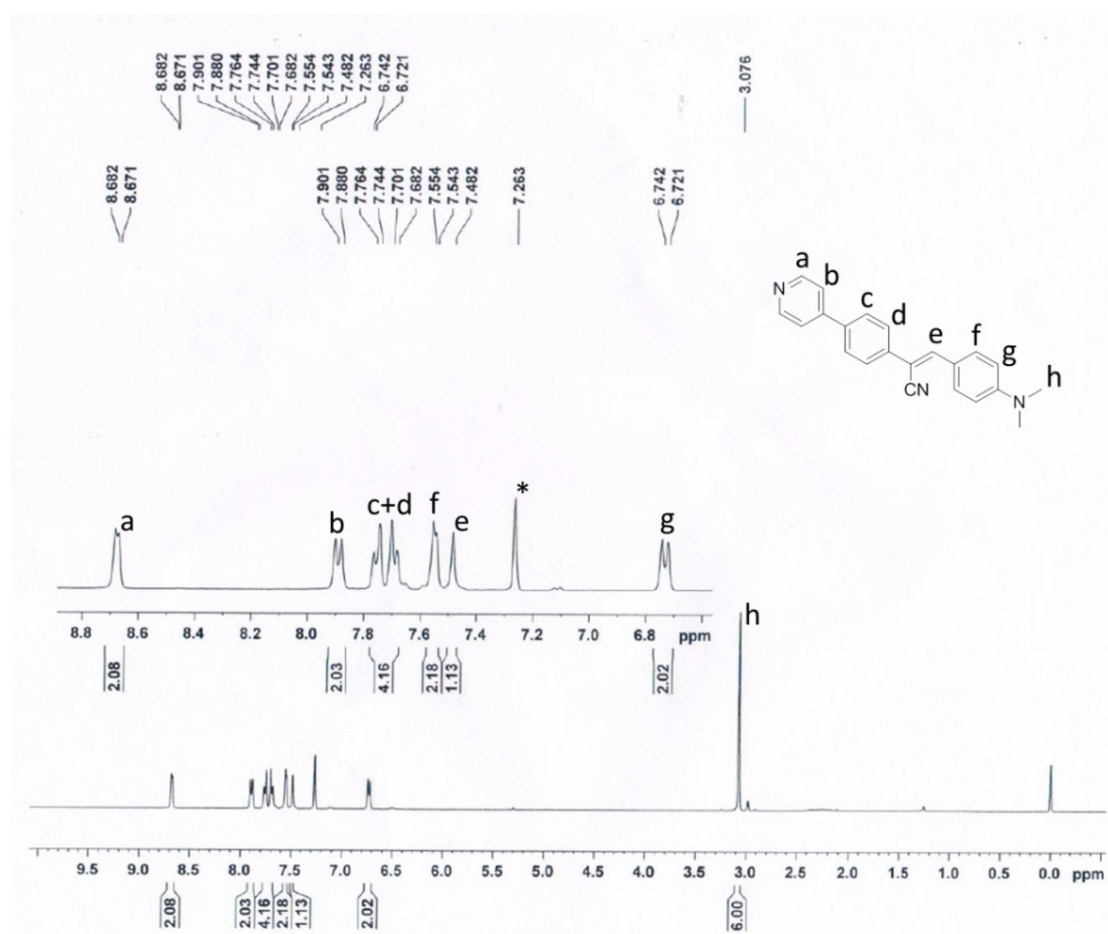


Fig. S4 ^1H NMR spectrum of **5** in CDCl_3 .

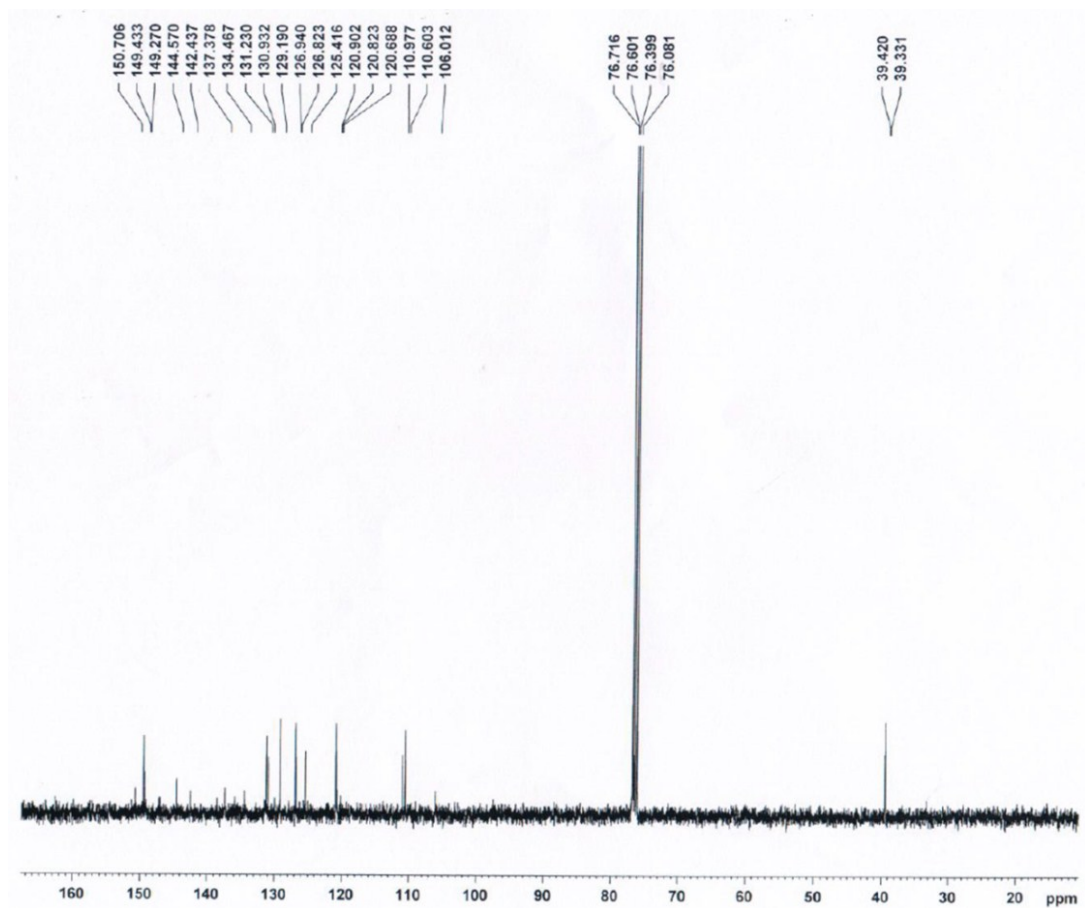


Fig. S5 ¹³C NMR spectrum of **5** in CDCl₃.

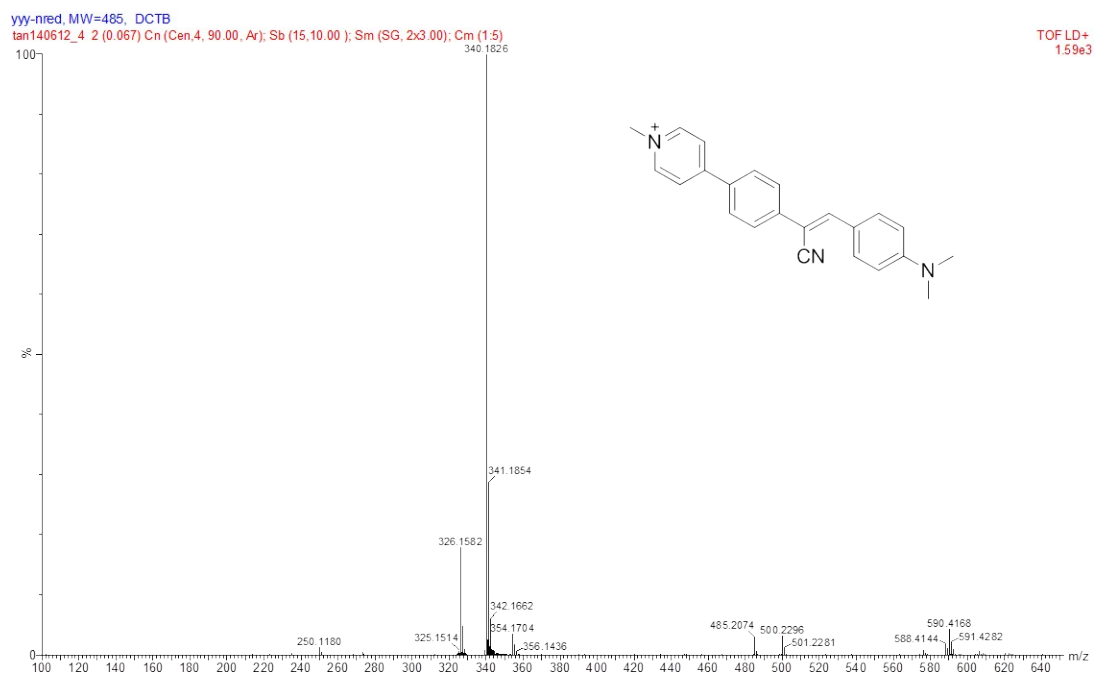


Fig. S6 High resolution mass spectrum of ASCP.

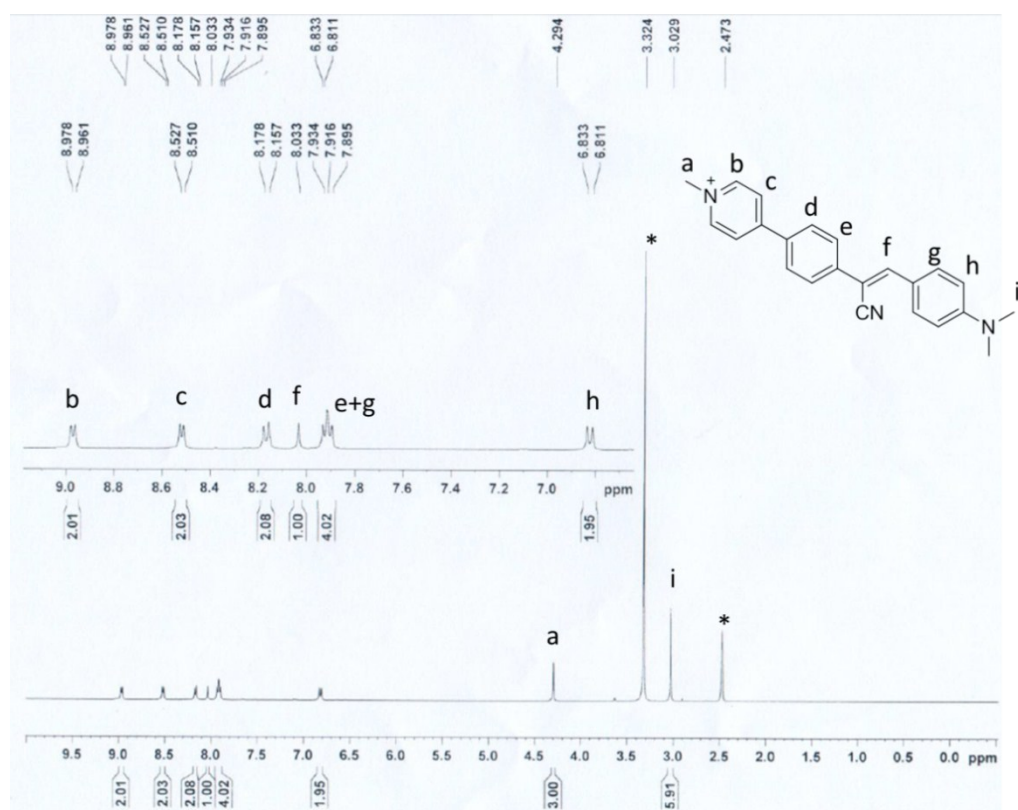


Fig. S7 ¹H NMR spectrum of ASCP in DMSO-*d*₆.

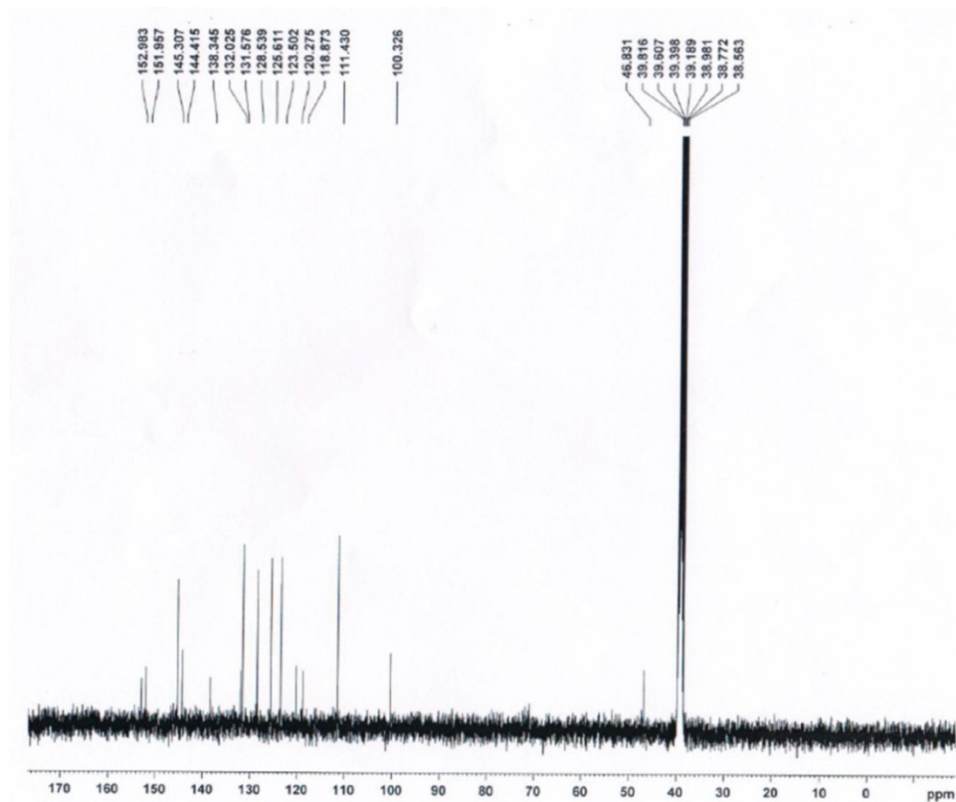


Fig. S8 ¹³C NMR spectrum of ASCP in DMSO-*d*₆.

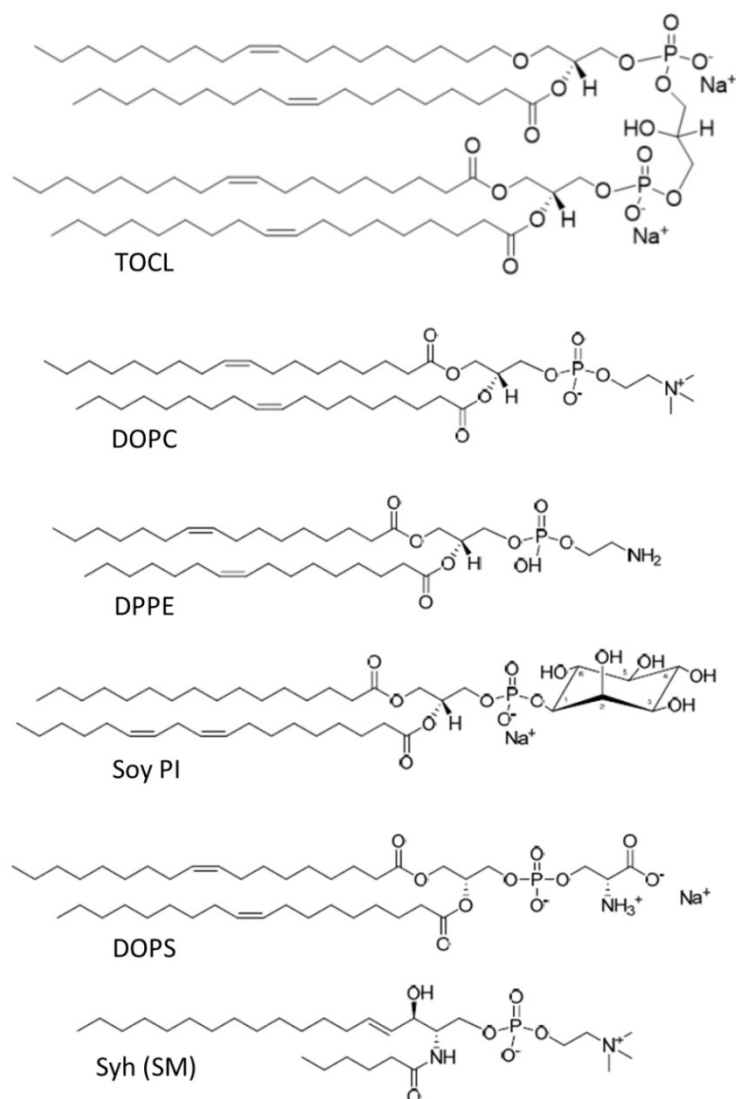


Chart S1. Chemical structures of the lipids used. Tetraoleoyl cardiolipin (TOCL); 1,2-dioleoyl-sn-glycero-4-phosphocholine (DOPC); 1,2-dipalmitoleoyl-sn-glycero-3-phosphoethanolamine (DPPE); L- α -phosphatidylinositol sodium salt from soy (Soy PI); 1,2-dioleoyl-sn-glycero-3-phospho-L-serine sodium salt (DOPS); and N-hexanoyl-D-sphingomyelin (SM).

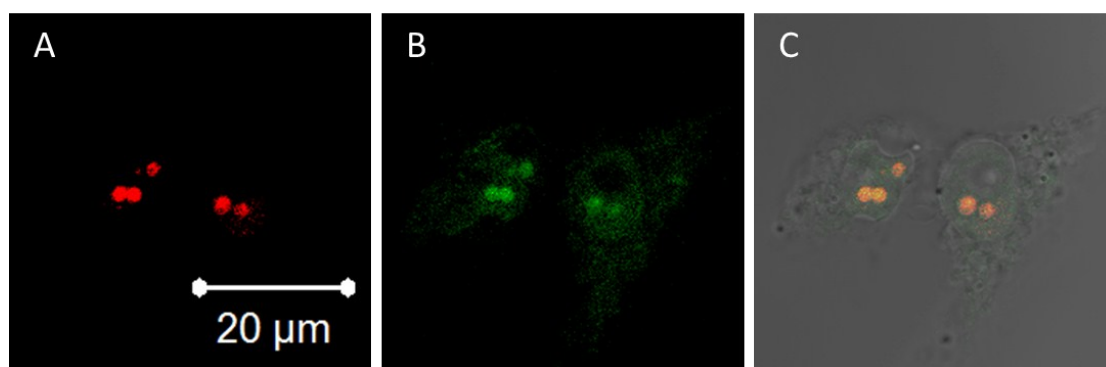


Fig. S9 (A and B) Confocal images of HeLa cells stained with (A) ASCP (5 μ M) and (B) SYTO RNASelect (500 nM). (C) The merged image of (A) and (B). Conditions: $\lambda_{\text{ex}} = 560$ nm and $\lambda_{\text{em}} = 650\text{--}750$ nm for ASCP; $\lambda_{\text{ex}} = 488$ nm and $\lambda_{\text{em}} = 500\text{--}540$ nm for SYTO RNASelect; scale bar = 20 μ m.