

Supporting Information Videos (SIV)

SV1: Hexapod colloid supported lipid membrane (HCSLM), averaged 3D construction of smaller arm hexapod coated with DOPC-lissRhodPE membrane

SV2: HCSLM, averaged 3D construction of longer arm hexapod coated with DOPC-lissRhodPE membrane

SV3: HCSLM, averaged 3D construction of shorter arm hexapod shows curvature sorting of PI(3,4,5)P3.

SV4: HCSLM, averaged 3D construction of longer arm hexapod shows curvature sorting of PI(3,4,5)P3.

SV5: HCSLM, averaged 3D construction of shorter arm hexapod shows curvature sorting of PI(4,5)P2.

SV6: HCSLM, averaged 3D construction of longer arm hexapod shows curvature sorting of PI(4,5)P2.

SV7: Hexapods with curvature sorted streptavidin protein

SV8: Hexapods (N = 1) with curvature sorted streptavidin protein assemblies with 2micron membrane coated silica bead (N = 1)

SV9: Hexapods (N = 1) with curvature sorted streptavidin protein assemblies with 2micron membrane coated silica bead (N = 2)

SV10: Hexapods (N = 2) with curvature sorted streptavidin protein assemblies with 2micron membrane coated silica bead (N = 1)

SV11: Hexapods (N = 1) with curvature sorted streptavidin protein assemblies with 1micron membrane coated silica bead (N = 2)

SV12: Hexapods (N = 1) with curvature sorted streptavidin protein assemblies with 1micron membrane coated silica bead (N = 3).

SV13: Hexapods (N = 1) with curvature sorted streptavidin protein assemblies with 1micron membrane coated silica bead (N = 4).

SV14: Hexapods (N = 3) with curvature sorted streptavidin protein assemblies with 1micron membrane coated silica bead (N = 6).

SV15: Diffusion of 2micron silica beads accessing regions near the core and along the leg.

SV16: Diffusion of 1micron silica beads accessing regions near the core and along the leg.

DOPC with PI lipids

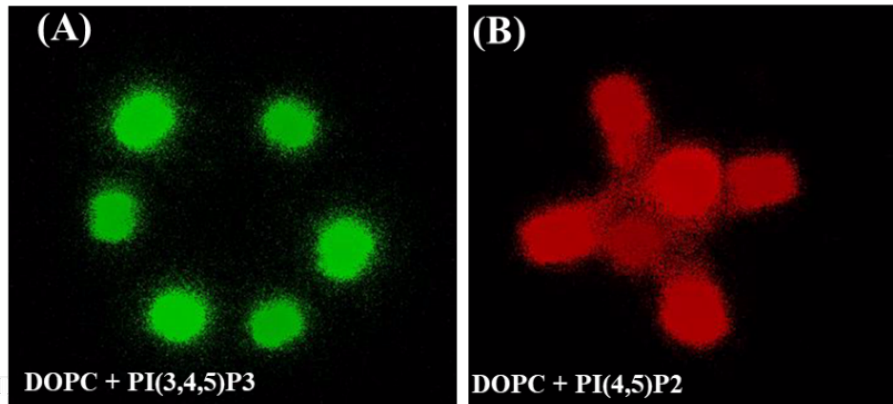


FIG. S1. A positive surface charged hexapod colloid. The averaged Z-projection of the confocal microscopy images show- (A) curvature sorting of PI(3,4,5)P3 lipids mixed with DOPC lipid membrane (green color corresponds to BODIPY-FL dye), and (B) curvature sorting of PI(4,5)P2 lipid mixed with DOPC lipid membrane (red color corresponds to BODIPY-TMR dye).

Plasma membrane lipid composition

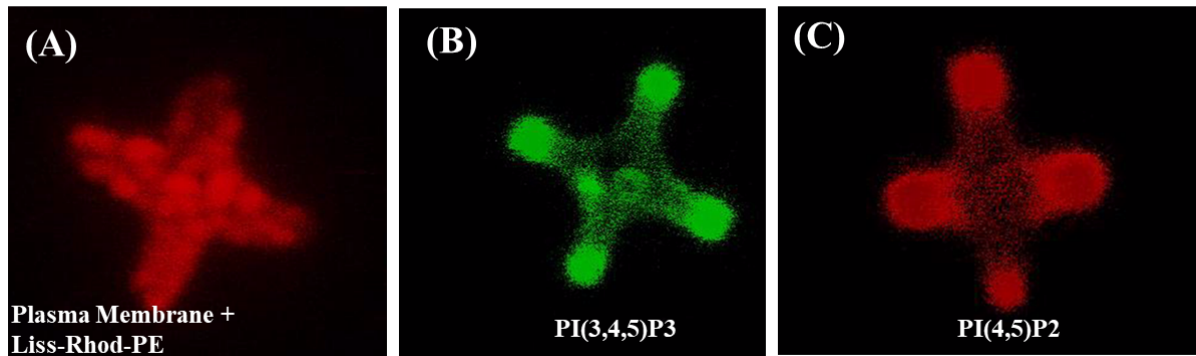


FIG. S2. A positive surface charged hexapod colloid. A lipid composition of plasma membranes (DOPC, DOPE, DOPS, and Cholesterol) used to form a colloid-supported membrane. The averaged Z-projection of the confocal microscopy images show-(A) a patchy membrane formed by a plasma membrane coated hexapod (red color corresponds to the liss-rhod-PE lipids), (B) curvature sorting of PI(3,4,5)P3 lipids mixed with plasma membrane lipids (green color corresponds to BODIPY-FL dye), and (C) curvature sorting of PI(4,5)P2 lipid mixed with plasma membrane lipids (red color corresponds to BODIPY-TMR dye).

Brain Lipid Polar extract

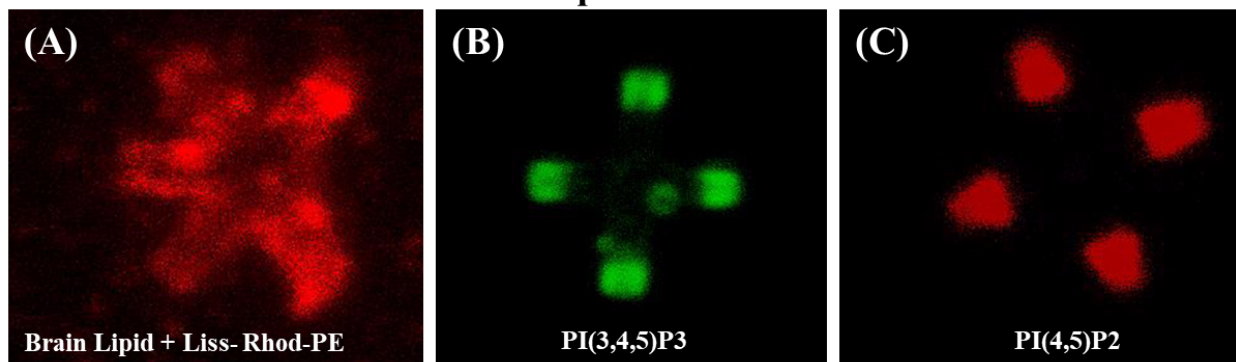


FIG. S3. A positive surface charged hexapod colloid forms a supported membrane with brain lipid polar extract lipid. The averaged Z-projection of the confocal microscopy images show that (A) hexapod coated with only brain lipid forms a patchy membrane (red color corresponds to the liss-rhod-PE lipids), (B) hexapod curvature sorting of PI(3,4,5)P3 lipids mixed with brain lipids (green color corresponds to BODIPY-FL dye) and (C) curvature sorting of PI(3,4)P2 lipids (red color corresponds to BODIPY-TMR dye).