Supporting Information

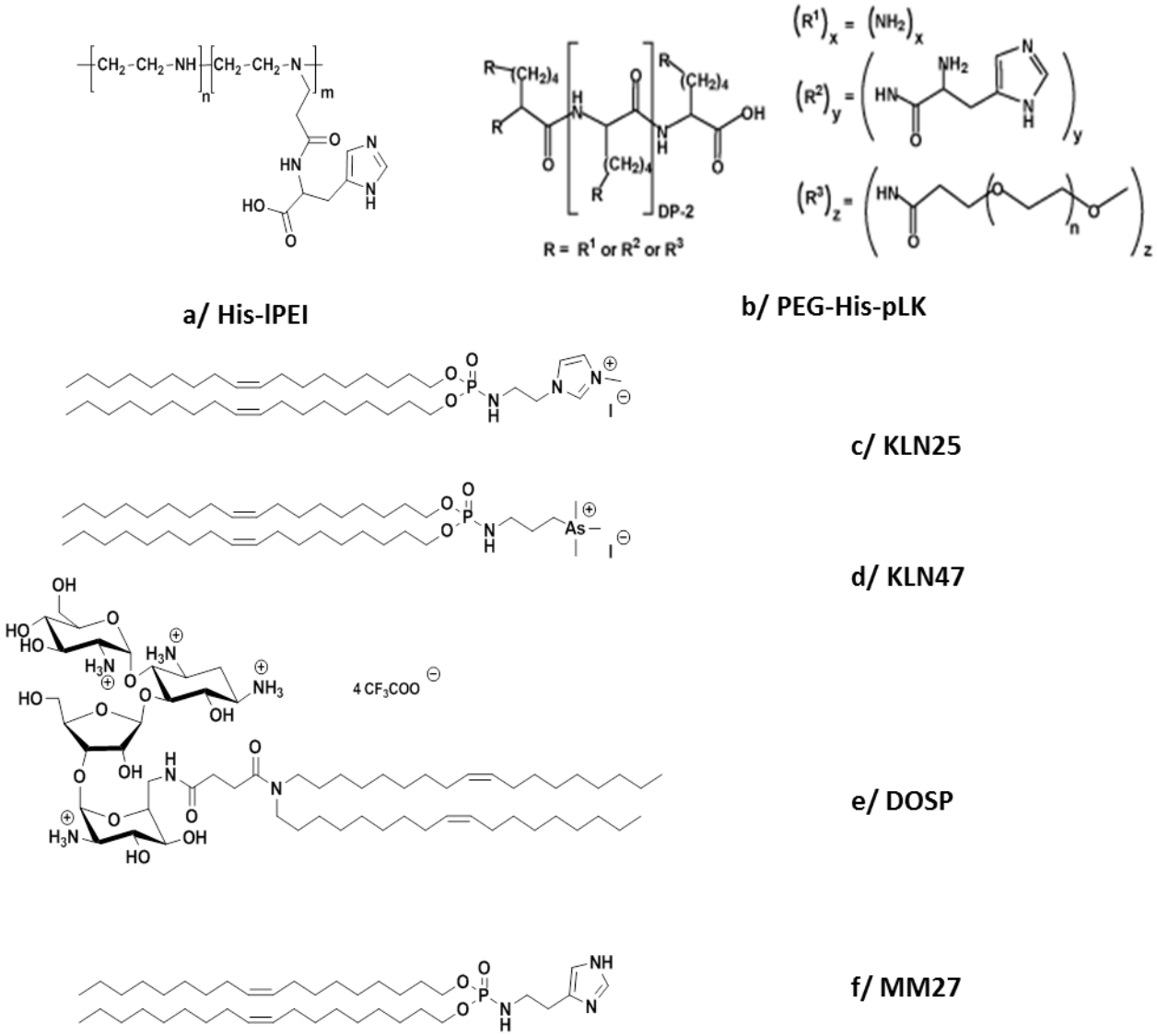

Figure S1 : Structures of Lipids and polymers used in the study: a) histidinylated lPEI (His-lPEI); b) PEGylated and histidylated polylysine (His-pLK); c) *O,O*-dioleyl-N-(3N-(N-methylimidazolium iodide)propylene) phosphoramidate (KLN25); d) *O,O*-dioleyl-phosphoramidate arsonium (KLN47); e) dioleyl succinyl paromomycin (DOSP); f) *O,O*-dioleyl-N-methylesterhistidine phosphoramidate (MM37); g) *O,O*-dioleyl-N-histamine phosphoramidate (MM27).

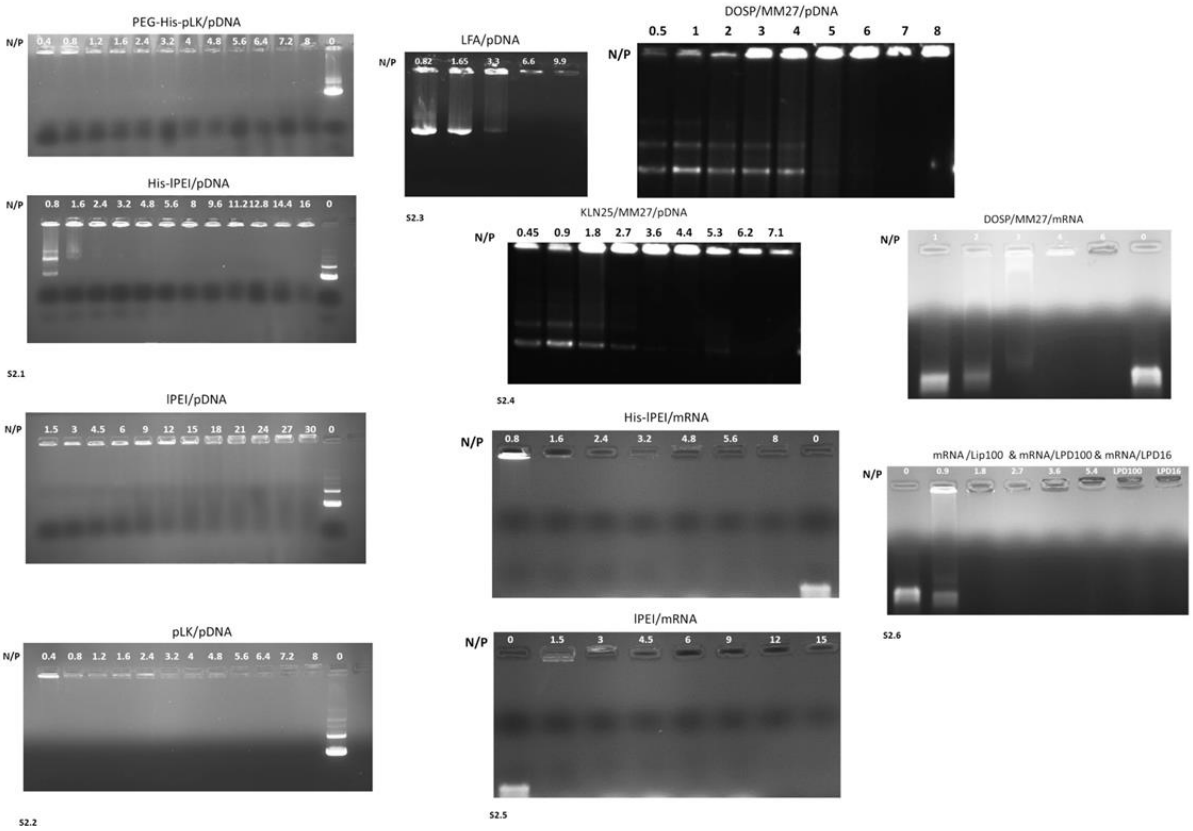

Figure S2: Agarose gel electrophoresis shift assay of pDNA or mRNA complexed with the various vectors at different N/P ratios. N is the number of positive charges of polymer or lipid and P is the number of phosphate charges of pDNA or mRNA. Electrophoresis was conducted under 80 V/cm through a 0.6% agarose gel containing ethidium bromide (1 µg/ml) in 95 mM Tris, 89 mM boric acid, and 2.5 mM EDTA (pH 8.6). pDNA or mRNA bands were visualized under UV irradiation at 304 nm. pDNA or mRNA complexes do not migrate in the gel. The decrease of the fluorescence intensity in wells is indicative of the pDNA or mRNA condensation level.