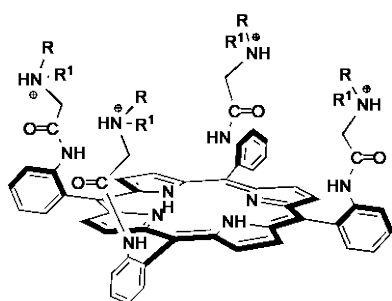


Porphyrin Molecules That Selectively Bind To The Phosphatidylglycerol (PG) Head Group, A Lipid Found In Bacterial Membrane

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Porphyrin molecules that selectively bind to the phosphatidylglycerol (PG) head group, a lipid found in bacterial membrane have been previously reported by our research group. A tetrakis-ammonium glycine picket porphyrin exhibits high binding affinity, selectivity and could penetrate the bacterial cell wall as elucidated by solution studies, Fluorescence correlation spectroscopy (FCS) and bacterial studies. Here in we report on modified ammonium picket porphyrin molecules, which are able to bind to PG at the membrane interface. Complex formation effectively increases the size of the head group and changes the overall charge from negative to positive, increasing the membrane permeability.



1: R=H₂, R¹= CF₃COO⁻

2: R = CH₂C₆H₅, R¹ = H+CF₃COO⁻

3: R = CH₂CH₂CH₃, R¹ = H+CF₃COO⁻

4: R = CH₂CH₂CH₂CH₂CH₂CH₃, R¹ = H+CF₃COO⁻

5: R = CH₂CH₂OCH₂CH₂OCH₂CH₂OCH₂CH₃, R¹=H+CF₃COO⁻

6 : R = CH₂CH₂OCH₃, R¹ = H+CF₃COO⁻