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# Antimicrobial Anionic Polymers: the Effect of Cations

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**ABSTRACT:** Development of antibacterial materials with broad spectrum activity has attracted extensive attention. Herein, anionic small molecule and their corresponding anionic polymers with various organic cations, including cyclized cations (imidazolium [Im] and piperidinium [Pi]), and linear cations (quaternary ammonium [Qa] and phosphonium [Ph]) were synthesized for the antibacterial applications. The effect of cationic structures on the antibacterial activities against both *Staphylococcus aureus* (*S. aureus*) and *Escherichia coli* (*E. coli*) were studied systematically by determination of minimum inhibitory concentration (MIC) and

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