In vitro Antibacterial Activities of Silver (I) 4-Substituted Benzenesulfonate Derivatives

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SUMMARY. A new series of silver (I) 4-substituted benzenesulfonate derivatives (1-8) have been synthesized in order to search for new potential antibacterial agents. The antibacterial activity of 1-8 against various strains of bacteria has been determined. Compounds 2-4 (silver (I) 4-methylbenzenesulfonate (2), silver (I) 4-methoxybenzenesulfonate (3), and silver (I) 4-aminobenzenesulfonate (4)) showed broad spectrum of antibacterial activities against both Gram-positive (methicillin-resistant Staphylococcus aureus, Staphylococcus aureus, Bacillus subtilis, Enterococcus faecalis and vancomycin-resistant Enterococcus faecalis) and only one Gram-negative bacterium (Shigella sonnei). The Structure-Activity Relationship (SAR) has also been reported.

KEY WORDS: Antibacterial activity, Benzenesulfonate, Bioactivity, Methicillin-resistant Staphylococcus aureus, Silver (I), Vancomycin-resistant Enterococcus faecalis.

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