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ELECTRICAL CONDUCTIVITY, BIOLOGICAL ACTIVITY, SEM STUDIES AND ANALYTICAL APPLICATION OF TERPOLYMER DERIVED FROM 2,6-DIHYDROXYACETOPHENONE, PARAPHENYLENE DIAMINE AND FORMALDEHYDE

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ABSTRACT

The terpolymer resin used for present study was already synthesized by condensation of 2,6-dihydroxyacetophenone, Paraphenylene and Diamine and formaldehyde in 1:1:2 ratio and characterized by spectral studies. The DC electrical conductivity was measured as a function of temperature from 303K-423K. The result of DC conductivities have been present in the form of plot of $\log \sigma$ vs $10^3/T$ which shows increase in electrical conductivity with increase in temperature. Hence terpolymer can be ranked as semiconductor. Activation energy of terpolymer was calculated from the slope of the plot. Terpolymer has been screened against bacteria like Escherichia coli, Pseudomonas aeruginosa, staphylococcus aureus and Bacillus subtilis and fungi Candida albicans, Aspergillus niger. The terpolymer shows no antibacterial and antifungal activities. The surface morphology after was examine by scanning electron microscopy. From this study it is found that it can be used as ion exchanger. The ion exchange properties of the terpolymer resin have been studied for hazardous metal ion like Co^{2+} , pb^{2+} , Hg^{2+} and Cd^{2+} ion. A batch equilibrium method was employed for the study of selectivity of metal ion uptake. The study was carried out over a wide range of pH and ionic strengths of different electrolytes. Rate of metal ion uptake follows the order $\text{Co}^{2+} > \text{Cd}^{2+} > \text{Pb}^{2+} > \text{Hg}^{2+}$.

QUINOLINE AS ANTIMALARIAL AGENTS: A BRIEF HISTORY

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ABSTRACT

Development of new and more powerful antimalarial drugs has become more complex because of emergence of multidrug resistant strains of P. falciparum. Drug resistance has led to the combination of quinolines with other classes of antimalarials resulting in enhanced therapeutic outcomes. In this review, we have discussed the life cycle of malaria parasite followed by quinoline based antimalarial drugs. The antimalarial drugs containing quinoline is the most effective class of drugs known for malaria chemotherapy. In this review, antimalarial drugs along with their mode of action on different stages of parasite has been discussed and also their mechanism of action and advantages and disadvantages are reported. The objective of this review is to summarize structure-activity relationship and medicinal chemistry developments in the field of therapeutic 4-amino quinoline derivatives.