

SUMMARY

Eleven silver resistant yeast strains (GCYAg-1 to GCYAg-11) were isolated from effluent samples collected from Nallah Daik, Rohi Nallah and Sitara Chemicals and were grown on YEPD medium. On the basis of several physical and biochemical tests the isolates were characterized as: *Netschnikowia lunata* (GCYAg-1), *Sterigmatomyces halophylus* (GCYAg-2) *Saccharomyces Kluyveri* (GCYAg-3, GCYAg-5), *Saccharomyces cerevisiae* (GCYAg-4), *Pichia sp.* (GCYAg-6), *Lassatechenkia orientalis* (GCYAg-7) and *Candida sp.* (GCYAg-8, GCYAg-9, GCYAg-10, GCYAg-11).

The optimum temperature for GCYAg-3, GCYAg-6, GCYAg-7, GCYAg-9 was 30°C, for GCYAg-2, GCYAg-11 was 37°C and GCYAg-1, GCYAg-4, GCYAg-5, GCYAg-8, GCYAg-10 was 45°C. The optimum pH was 5.0 for GCYAg-6, 5.5 for GCYAg-7, 6.0 for GCYAg-2, 7.0 for GCYAg-9 and GCYAg-11, 8.0 for GCYAg-8, 9.0 for GCYAg-4 and GCYAg-10, 9.5 for GCYAg-1 and GCYAg-5.

The minimum inhibitory concentration of Ag^+ for the isolate GCYAg-1 was 140 µg/ml, for GCYAg-7 it was 155 µg/ml and for GCYAg-6 was 200 µg/ml, for GCYAg-2 and 11 it was 650 µg/ml, for GCYAg-9 was 700 µg/ml, for GCYAg-5 and 8 it was 750 µg/ml while for GCYAg-3, 4 and 10 it was 800 µg/ml. All isolates were also checked for their ability to resist the other heavy metal ions as Nickel (2.0 - 5.0 mg/ml), Cadmium (0.75 - 5.0 mg/ml), Copper (1.0 - 6.0 mg/ml), Lead (5.0 - 6.0 mg/ml) and chromium (0.5 to 3.5 mg/ml). The order of resistance to metals was cu^{+2} and $Pb^{+2} > Ni^{+2}$ and $Cd^{+2} > Cr^{+6} > Ag^+$.