CHARACTERISATION, X-RAY DIFFRACTION AND MICROBIOLOGICAL STUDIES ON SOME [M^{1+} (Phen.)_3]
TeO_3, nH_2O COMPLEXES

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Ni^{2+}, Co^{2+} and Cu^{2+} complexes of 1, 10 Phenanthroline with new anion Tellurite (TeO_3^{2-})
have been synthesised and characterised on the basis of elemental analysis, Infrared,
Electronic spectra, TGA and X-ray diffraction studies. Powder X-ray diffraction studies
have been undertaken to determine lattice parameters viz. crystal system, crystal lattice
edge, and volume. Octahedral structure for the Ni^{2+} and Co^{2+} complexes and a squarplaner
structures for the Cu^{2+} complexes have been suggested. The complexes of the series
exhibit promising antibacterial and antifungal activity.

In our previous paper's "we reported the complexes of Ni^{2+}, Co^{2+} and Cu^{2+} with en.,
phen., dien. bipy. and Phen. having MoO_4^{2-}, WO_4^{2-} and VO_2^{+} anion. In this paper we report
three new complex of nickel (II), Cobalt (II) and Copper (II) with phen. having a new anion
tellurite (TeO_3^{2-}). The complexes were characterised by analytical spectral studies.

The starting material Nickel tellurite, Cobalt tellurite and Copper tellurite was
datared by the reported method. The M^{n+} L_3 TeO_3 \times nH_2O were isolated by shaking M^{n+}
TeO_3 \cdot nH_2O (0.01 mol) with the required L (Where L = 1, 10 Phenathro line) (0.03 mol) in
water (~ 100 ml). The complexation was marked by change in colour. The products were
filtered washed 3-4 times with ether and dried in vaccum over P_2O_5, before analysis. Metals
in the complexes were determined, Nickel was estimated gravimetically 9 as nickel
dimethylglyoxamine, Cobalt volumetrically and Copper estimated as Cuprous thiocyanate.
Tellurite gravimetrically as Tellurium. C, H and N were analysed at B.A.R.C. Mumbai.
Infrared Spectra (KBr) were recorded at a C.A.T Indore in spectrophotometer. Electronic
Spectra on a Chemito 2500 UV - Vis Recording Spectrophotometer in F.S.L. Sagar.