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Abstract

HNMR, FTIR and Mass spectrometric Analysis of Biopotent Dimedon Azo-Derivatives and Their Metal Complexes

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Abstract:
The expansion of novel and extra operative antibiotic proxies are essential for human health. Here, we have produced a new series of azo-compounds including, (5,5-dimethyl-2-[(E)-phenyldiazenyl]cyclohexane-1,3-dione(DMPDCDO),5,5-dimethyl2[(E)(2methylphenyl) diazenyl]-5,5-dimethylcyclohexane-1,3-dione(DMMPDCDO),5,5-dimethyl-2-[(E)-(4ethylphenyl) diazenyl] cyclohexane- 1,3-dione (DMEPDCDO), and 5,5-dimetyl-2-[(E)-(4-methylphenyl)diazenyl]-5,5-dimethylcyclohexane-1,3-dione(DMPDACDO)weresuccessfullysynthesized via diazo-coupling of substituted amine's diazonium salts with dimedone at 0-5℃. Then azo compounds were further utilized for the synthesis of metals complexes with Zn2+, Mn2+, Ni2+ , Co2+etc . The purification of the synthesized ligands along with the metal complexes was known by TLC technique. Moreover, 1HNMR, FTIR, and Mass spectrometric systems were successfully utilized to confirm the synthesis of ligands as well as metal complexes. The FTIR results distinctly confirmed synthesis by a characteristic (distinct) peak of (-N=N-) in 1500-1400 cm-1 range, while the C=O peak in 1740-1530 cm-1 range. The metal complex syntheses were confirmed by lowering the carbonyl functional group frequency owing to the metal carbonyl interaction. The 1HNMR results confirmed synthesis by vanishing -NH group peak at chemical shift value in of 4.05-4.07 ppm range. The Mass spectrometric study confirmed the synthesis due the presence of clear molecular ion peaks, base peaks andthe ion fragments pattern. Biological activities were also performed. Results have shown that synthesized compounds and their metal complexes are good to moderate antibacterial and antifungal agents against americane and fluconazole respectively.

Biography:
Habib-ur-Rehman Shah, has expertise in the synthesis and characterization of nanoparticles, nanocomposites, materials chemistry and analytical chemistry. He has experience in research, evaluation and teaching. He has expertise in micro-emulsion , solo-gel and co-precipitation methods for the synthesis of nanoparticles. He has strong expertise to utilize HNMR, FTIR , Dielectric data to interpreted it.

Publication of speakers:

- Habib-ur-Rehman Shah et al..Synthesis and spectroscopic characterization of medicinal azo derivatives and metal complexes of Indandion
- Habib-ur-Rehman Shah et al..spectroscopic characterization of medicinal azo derivatives and metal complexes of Indandion
- Habib-ur-Rehman Shah et el.. characterization of medicinal azo derivatives and metal complexes of Indandion.

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