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| Title: | Unprecedented hetero-geometric discrete copper(II) complexes: Crystal structure and bio-mimicking of Catecholase activity |
| Authors: | Yadav, H.R. (/jspui/browse?type=author&value=Yadav%2C+H.R.) Choudhury, A.R. (/jspui/browse?type=author&value=Choudhury%2C+A.R.) |
| Keywords: | Unprecedented solid Coper(II) complexes Spectroscopy. |
| Issue Date: | 2016 |
| Publisher: | Springer Link |
| Citation: | Journal of Chemical Sciences, 128(11), pp. 1775-1782. |
| Abstract: | An unprecedented solid of coper(II) complexes, [Cu(dpa)2NCS]2[Cu(dpa)2(NCS)2](ClO4)2 (1) [dpa = 2,2'-dipyridylamine; SCN = thiocyanate], has been synthesized and crystallographically characterized with the aim to study the catecholase activity. The Cu(II) complex mimics the full catalytic cycle of the active site of catechol oxidase enzyme in acetonitrile medium with a turnover number of $4.788 \times 10^3 \text{ h}^{-1}$ along with the production of semiquinone radical and hydrogen peroxide. In situ generation of Cu(I) species in the catalytic pathway of catechol oxidation was established by electrochemical study and further confirmed by electron paramagnetic resonance (EPR) spectroscopy. |
| Description: | Authors sequences are not necessary in order. Only IISERM authors are available in the record. |
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