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SYNTHESIS AND IN VITRO ANTICANCER ACTIVITYOF A NOVEL RUTHENIUM AND COPPER(II) COMPLEXS WITH CURCUMIN

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Curcumin, a natural diphenolic compound derived from turmeric *Curcuma longa*, (Fig.1) has proven to be a modulator of intracellular signaling pathways that control cancer cell growth, inflammation, invasion and has gained much attention in recent years for its anticancer activities against various cancers[1,2]. Since the serendipitous discovery of the cisplatin anti proliferative activity, many efforts have focused on the design of potent metal-based drugs for oncology therapies. Over the last four decades, a large number of metal complexes have been extensively investigated and evaluated *in vitro* and *in vivo*, and some of them were at different stages of clinical studies [3]. In this study, we evaluated the anti-proliferative and apoptotic effects of copper complexes including curcumin and ruthenium-curcumin complex against human cervix epithelial carcinoma (HeLa), cell line and using cisplatin as a comparative standard by MTT assay. Our studies on the anticancer activity of the complex indicate thise the complex can inhibit the cellular proliferation in cervix epithelial cancer.

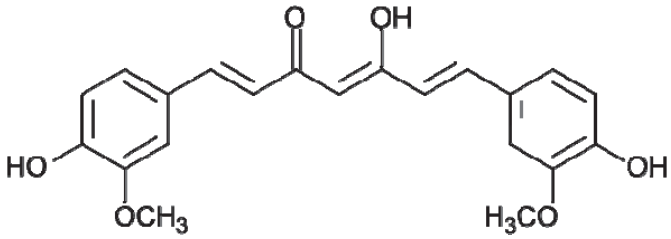

Fig. 1: the structure of curcumin

[1] Yallapu , M.M.; Jaggi, M.; Chauhan, S.C. *Drug Discov Today*, **2012**, *17*, 71–80.
[2] Chuah, L.H.; Roberts, C.J,; Billa, N.; Abdullah, S.; Rosli, R. *Colloids Surf., B.* **2014**, *116*, 228–236.
[3] Lainé, A.L.; Passirani, C. *curr. opin. pharmacol.* **2012**, *12*, 420–426.