Electronic Supplementary Material (ESI) for Dalton Transactions.

Supplementary Information Appendix for

A New Class of Prophylactic Metallo-Antibiotic Possessing Potent Anti-Cancer and Anti-Microbial Properties

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S.1 IR spectra of complexes

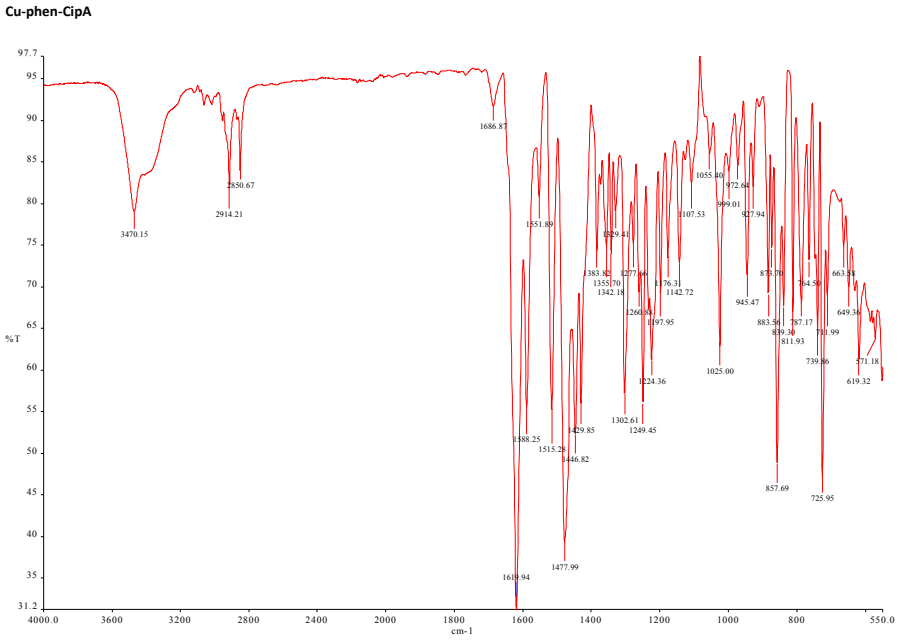


Figure S1: IR spectrum of Cu-phen-CipA

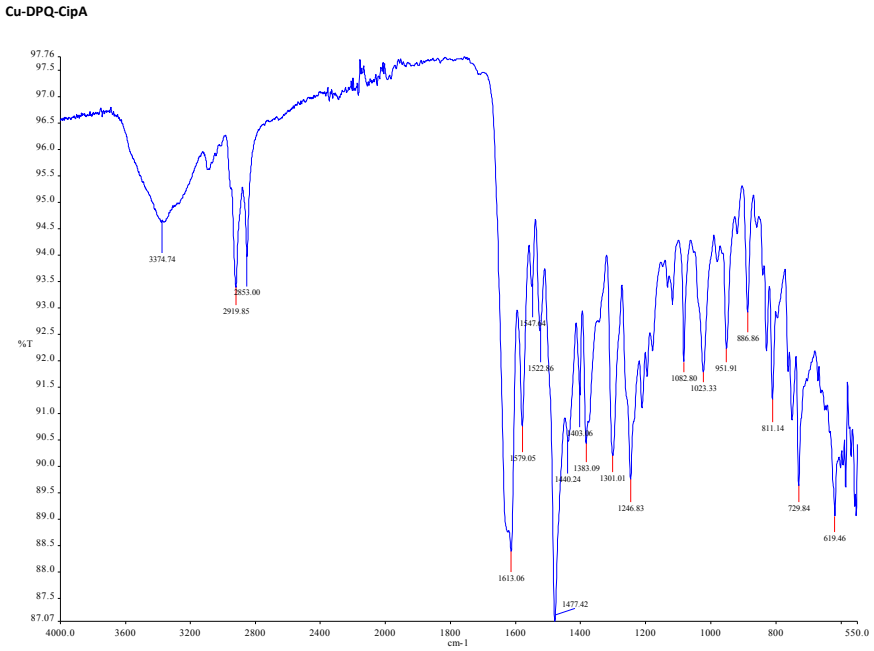


Figure S2: IR spectrum of Cu-DPQ-CipA

Figure S3: IR spectrum of Cu-DPPZ-CipA

S.2 ESI-MS spectra of complexes

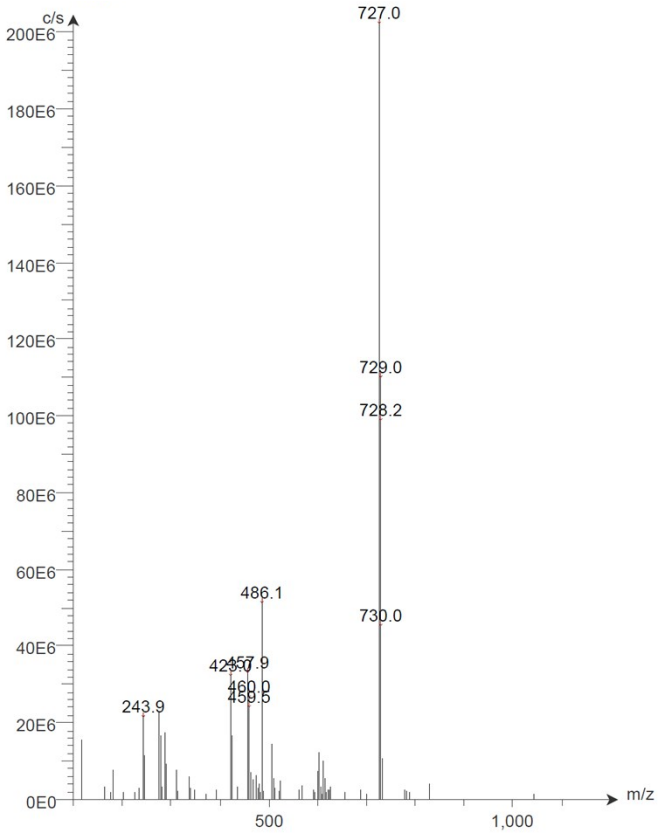


Figure S4: ESI-MS spectrum of Cu-phen-CipA; (positive mode; MeOH) *m/z* 727.0 $[M\text{-}Cl]^+$

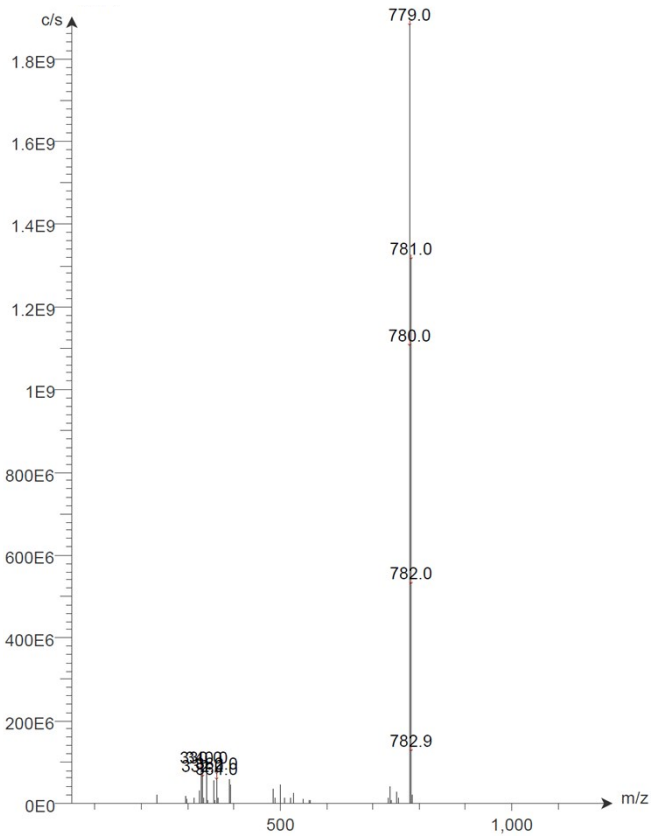


Figure S5: ESI-MS spectrum of Cu-DPQ-CipA; (positive mode; MeOH) *m/z* 779.0 $[M\text{-}Cl]^+$

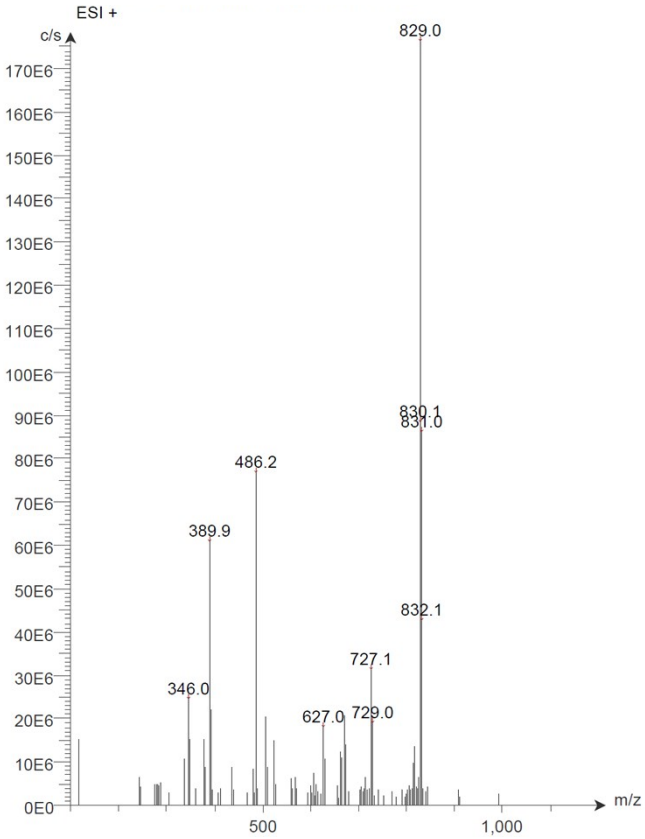


Figure S6: ESI-MS spectrum of Cu-DPPZ-CipA; (positive mode; MeOH) *m/z* 829.0 $[M\text{-}Cl]^+$

S.3 DNA binding affinity data for stDNA

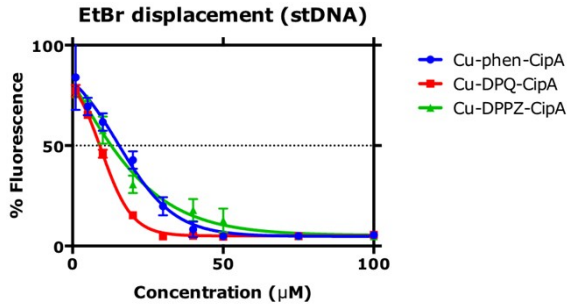
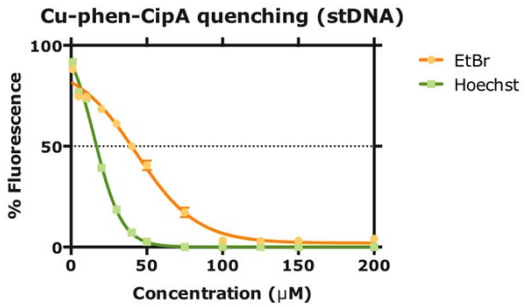


Figure S7: Competitive EtBr displacement assays with stDNA. Data points are presented as an average of triplicate measurements ± SD. Data points for CipA are omitted for clarity.



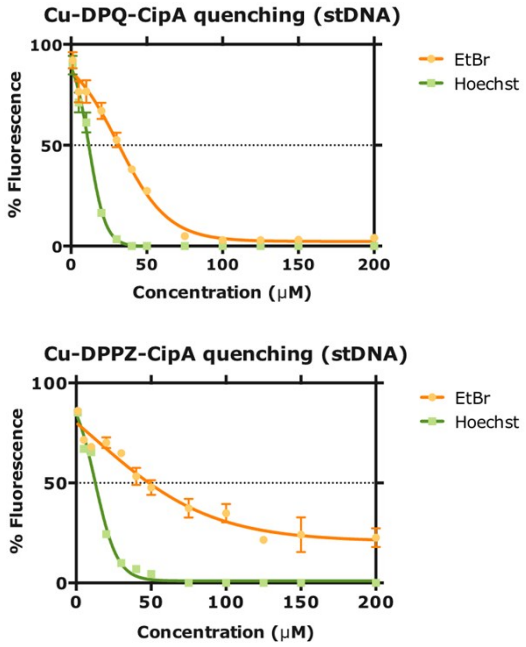


Figure S8: Competitive EtBr displacement: Fluorescence quenching of limited bound EtBr intercalator and Hoechst 33258 displacement assays with stDNA. Data points are presented as an average of triplicate measurements ± SD. Data points for CipA are omitted for clarity.

S.4 Competitive EtBr displacement assays with ctDNA and added reductant

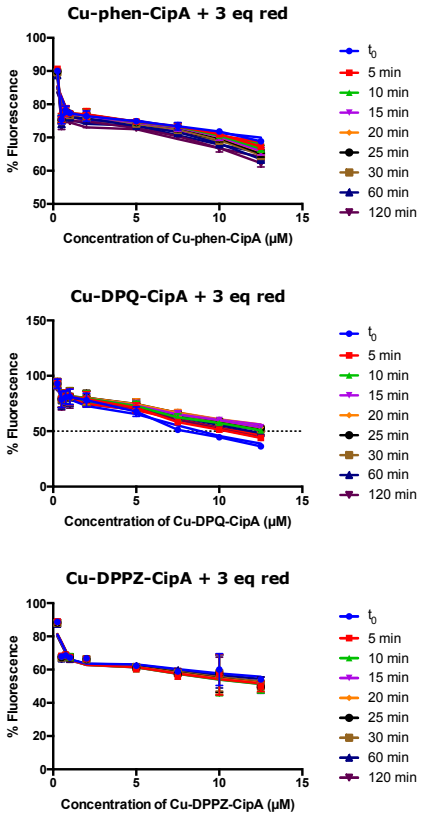
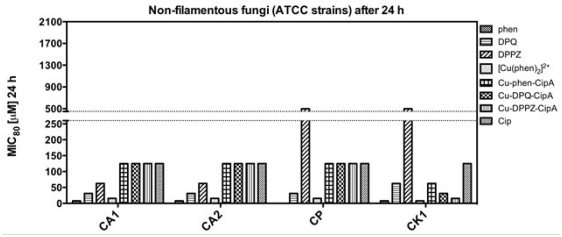
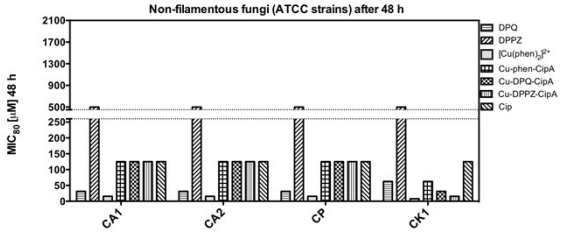
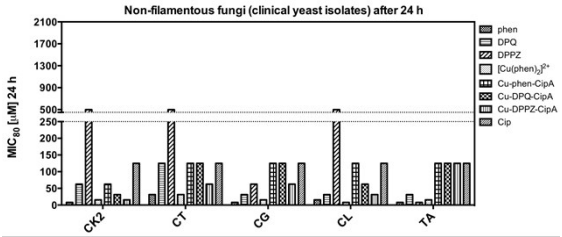


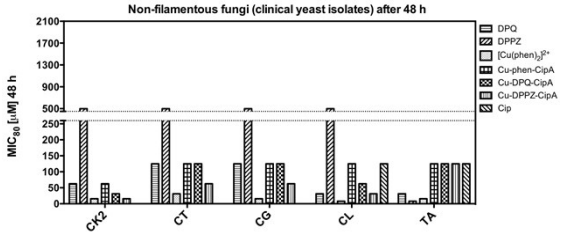
Figure S9. Competitive EtBr displacement assays with ctDNA with 3 eq of reductant (abbreviated as red) – Na-L-Ascorbate. Data points are presented as an average of triplicate measurements.

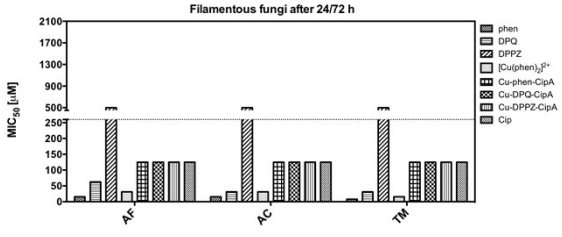
S.5 Anti-fungal activity of the N,N-ligands, Cip and Cu-N,N-CipA derivatives



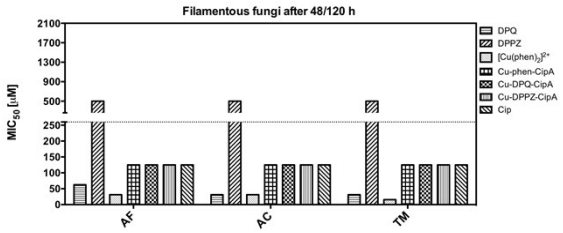








Note: AF and AC strains after 24 h and TM strains after 72 h.



Note: AF and AC strains after 48 h and TM strains after 120 h.

Figure S10. Anti-fungal activity of the N,N-ligands, Cip and Cu-N,N-CipA derivatives across a panel of non-filamentous and filamentous fungal strains after different time points of exposure.