## **Electronic Supplementary Materials For**

## Indium(III)-terpyridine complexes: synthesis, structures and remarkable antifungal and anticancer activities

Xiao Chen,<sup>a</sup> Qinguo Zhang,<sup>b</sup> Ashley Kaswer, <sup>a</sup> Hyunjeong Kim,<sup>a</sup> Maisha Ahmed,<sup>a</sup> Michelle C. Neary,<sup>c</sup> Shu-Yuan Cheng, <sup>a</sup> Guoqi Zhang<sup>\*,a</sup> and Jason M. Rauceo<sup>\*,a</sup>



Fig. S1. The FT-IR spectrum of complex In-1.



Fig. S2. The FT-IR spectrum of complex In-2.



Fig. S3. The FT-IR spectrum of complex In-3.



**Figure S4.** The UV-Vis spectra of compound **In-1** in aqueous solution (concentration:  $1 \times 10^{-5}$  M) as prepared (blue) and after 72 h (red).



**Figure S5.** The UV-Vis spectra of compound **In-2** in aqueous solution (concentration:  $1 \times 10^{-5}$  M) as prepared (blue) and after 72 h (red).



**Figure S6.** The UV-Vis spectra of compound **In-3** in aqueous solution (concentration:  $1 \times 10^{-5}$  M) as prepared (blue) and after 72 h (red).

	In-2a	In-2b		
lattice	Triclinic	Monoclinic	Monoclinic	
formula	C <sub>16</sub> H <sub>14</sub> Cl <sub>4</sub> InN <sub>3</sub> O	C <sub>16.5</sub> H <sub>16</sub> Cl <sub>4</sub> InN <sub>3</sub> O <sub>1.5</sub>	$C_{20}H_{14}Cl_3InN_4$	
formula weight	520.92	536.94	531.52	
space group	P-1	$P2_l/c$	$P2_l/c$	
a/Å	8.6481(5)	13.1149(3)	10.6721(3)	
b/Å	10.2867(6)	15.2796(3)	20.7727(6)	
c/Å	10.9814(6)	19.7365(5)	8.6742(3)	
$\alpha/^{\circ}$	104.902(2)	90	90	
β/°	92.935(2)	90.9160(10)	90.7040(10)	
γ/°	93.306(2)	90	90	
$V/Å^3$	940.27(9)	3954.50(16)	1922.82(10)	
Ζ	2	8	4	
temperature (K)	130(2)	130(2)	130(2)	
radiation (λ, Å)	0.71073	0.71073	0.71073	
$\rho$ (calcd.) g cm <sup>-3</sup>	1.840	1.804	1.836	
μ (Mo Kα), mm <sup>-1</sup>	1.835	1.750	1.660	
θ max, deg.	44.251	33.793	30.543	
no. of data collected	72062	159273	58603	
no. of data	14805	15835	5898	
no. of parameters	231	481	253	
$R_{I} [I > 2\sigma(I)]$	0.0347	0.0295	0.0233	
$wR_2 [I > 2\sigma(I)]$	0.0865	0.0770	0.0558	
$R_{I}$ [all data]	0.0421	0.0383	0.0294	
$wR_2$ [all data]	0.0919	0.0826	0.0585	
GOF	1.037	1.015	1.033	
R <sub>int</sub>	0.0556	0.0625	0.0488	

 Table S1. X-ray crystallographic refinement for In-2a, In-2b and In-3.

Compound	MIC (µg/mL)
L1	8
L2	16
L3	>64
InCl <sub>3</sub>	>64

**Table S2.** The control experiments that determine the MIC ( $\mu$ g/mL) values of free ligands and InCl<sub>3</sub> salt against *C. albicans* SC5314.

**Table S3**. Yeast viability assay raw data. Data shown corresponds to the bar graphs shown in figure 2. The cell survival percentage values (# of CFUs for indium-treated experimental sample/# of CFUs for corresponding DMSO-treated control sample multiplied by 100) for each technical replicate (R1, R2, and R3) are shown. The mean and standard deviation values for replicates corresponding to each compound are shown.

Compound	R1	R2	R3	Mean/St Dev Percent of Cell Survival
DMSO	100	100	100	$100 \pm 0.0$
In-1	0.78	0.39	0.95	$0.71\pm0.29$
DMSO	100	100	100	$100 \pm 0.0$
In-2	1.00	0.52	0.95	$0.83 \pm 0.26$
DMSO	100	100	100	$100 \pm 0.0$
In-3	2.05	1.75	0.90	$1.57 \pm 0.6$

**Table S4.** SwissADME raw data. Numerical data points corresponding to bioavailability hexagonal visuals in Fig. 3 are presented in this table. The shaded region for each category corresponds to the range of the following categories: Lipo: -0.7 <XLOGP3<+5.0. Size: 150g/mol<MV<500g/mol. Polarity: 20Å<sup>2</sup> TPSA 130 Å<sup>2</sup>. Insol: -6 <LogS< 0. Insatu: 0.25 <Fraction Csp3< 1. Flex: 0<Num. rotable bonds<9.

Compound	Size	Insatu	Flex	Polarity	Lipo	Insol
In-1	452.91	0	0	14.79	5.16	-6.51
In-2	488.89	0	0	14.79	5.79	-7.1
In-3	531.53	0	1	27.68	5.71	-7.3
Fluconazole	306.27	0.23	5	81.65	0.35	-2.17
Caspofungin	1093.31	0.75	24	412.03	0.34	-5.31