Universiteit Leiden
The Netherlands

Design, synthesis, characterization and biological studies of ruthenium and gold compounds with anticancer properties

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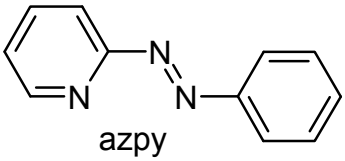
List of Abbreviations

^{1}H NMR	Proton nuclear magnetic resonance
3mazpy	2-(phenylazo)-3-methylpyridine
3mtazpy	2-(tolylazo)-3-methylpyridine
4mazpy	2-(phenylazo)-4-methylpyridine
9EtGua	9-ethylguanine
A2780	Cisplatin sensitive human ovarian carcinoma cell line
A2780R	Cisplatin resistant human ovarian carcinoma cell line
A498	Human renal carcinoma cell line
A549	Human lung carcinoma cell line
azpy	2-(phenylazo)pyridine
bpy	2,2'-dipyridyl
CH_3CN	Acetonitrile
cisplatin	*cis*-diamminedichloridoplatinum(II)
COSY	Homonuclear correlation spectroscopy
d	Doublet
dd	Doublet of doublet
DFT	Discrete Fourier transform
DMARD	Disease-modifying antirheumatic drugs
dmf	Dimethylformamide
dmso	Dimethyl sulfoxide
DNA	Deoxyribonucleic acid
EPR	Electron paramagnetic resonance spectroscopy
equiv	Equivalent
ER	Oestrogen receptor
ESI-MS	Electrospray ionization mass spectroscopy
EVSA-T	Human breast cancer cell line
GSH	Glutathione
H226	Human non-small cell lung carcinoma cell line
H_4cdta	1,2-cyclohexanediaminotetraacetic acid
HeLa	Human cervical cancer cell line
HOMO	Highest occupied molecular orbital
IC_{50}	Concentration of a compound that induces 50% of growth inhibition of cells compared to untreated cells
ICP-OES	Inductively coupled plasma optical emission spectroscopy
IGROV	Human ovarian carcinoma cell line
IR	Infrared spectroscopy
K	Kelvin degree
L1210/0	Cisplatin sensitive mouse leukaemia cell line
L1210/2	Cisplatin resistant mouse leukaemia cell line
LUMO	Lowest unoccupied molecular orbital
m	Multiplet
m/z	Mass to charge ratio
M19-MEL	Human melanoma carcinoma cell line
MCF-7	Human breast adenocarcinoma cell line
MeOH	Methanol
MHC	Major histocompatibility complex
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide
NO	Nitric oxide
NSAIDs	Non-steroidal anti-inflammatory drugs
P388	Mouse leukaemia cell line
PBS	Phosphate buffered saline physiological solution
PgR	Progesterone receptor

phen	1,10-phenanthroline
pic	picolinate
pic-H	2-picolinic acid
Ppm	Parts per million
RF	Resistant factor, IC_{50}(resistant cell line)/IC_{50}(sensitive parent cell line)
RNA	Ribonucleic acid
RT	Room temperature
s	Singlet
SAR's	Structure-activity relationships
SRB	Sulforhodamine B
t	Triplet
tazpy	2-(tolylazo)pyridine
TMS	Tetramethylsilane
tpy	2,2':6',2"-terpyridine
TxR	Selenoenzyme thioredoxin reductase
UV-Vis	Ultraviolet-Visible spectroscopy
WIDR	Human colon adenocarcinoma cell line

Schematic representation of the compounds synthesised in this thesis

Organic compounds



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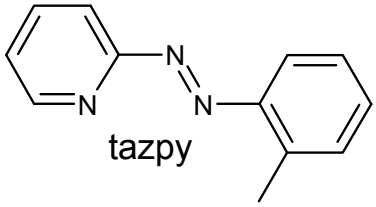

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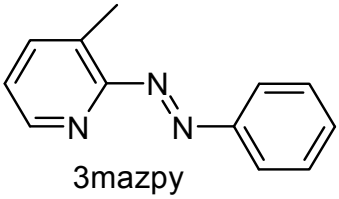

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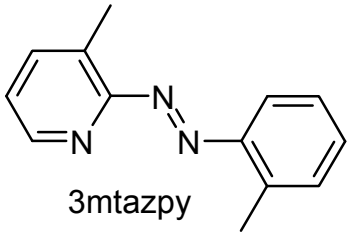

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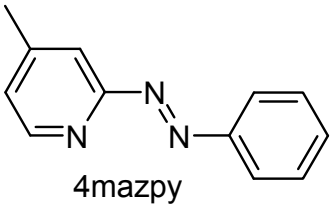

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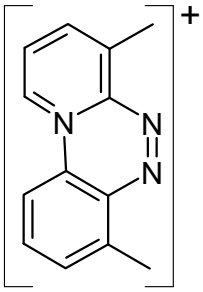

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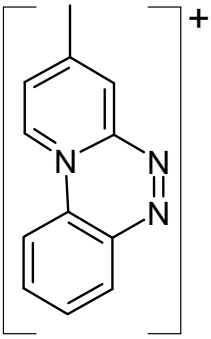

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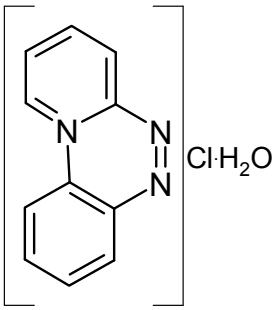

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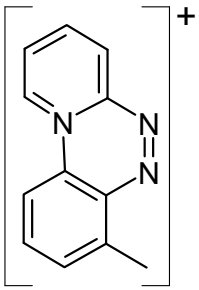

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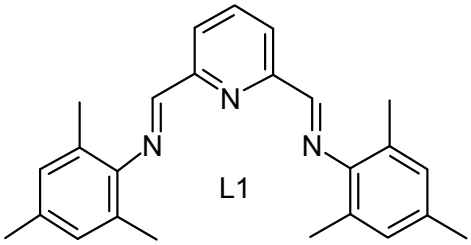

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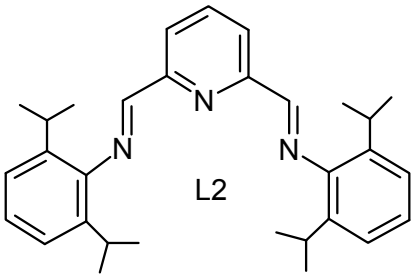

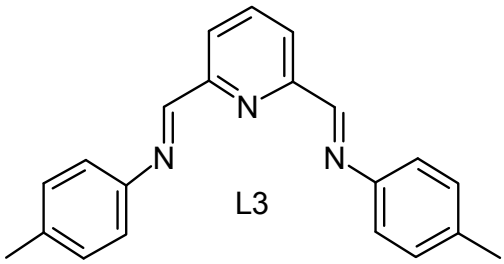

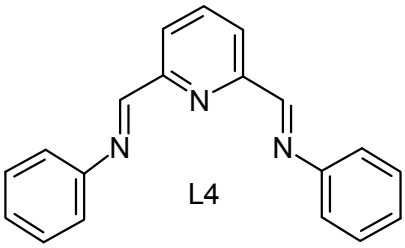

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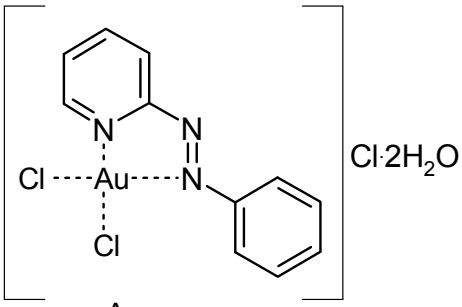

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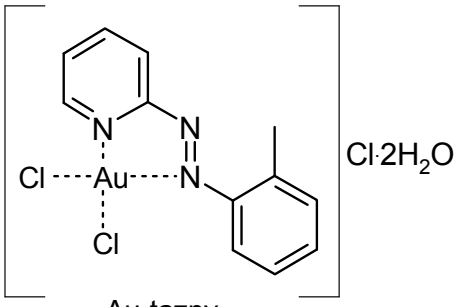

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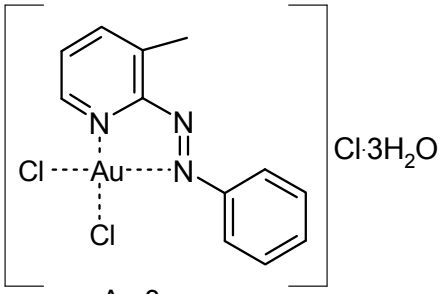

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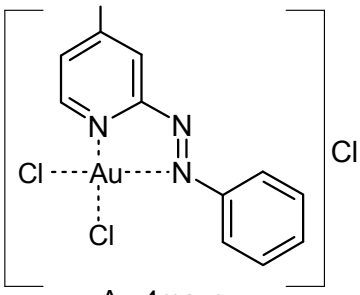

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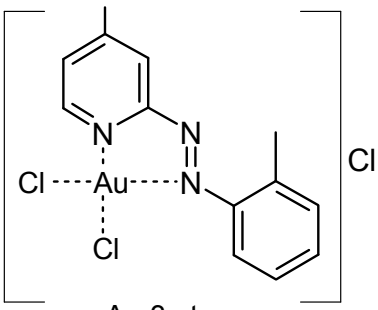

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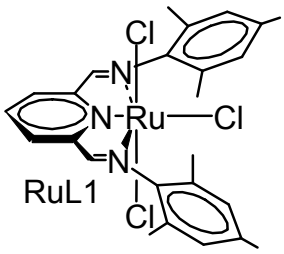

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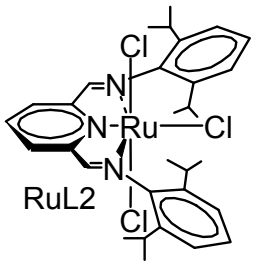

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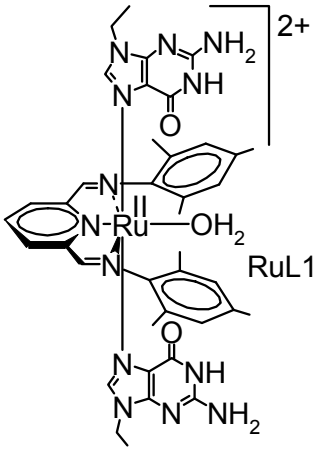

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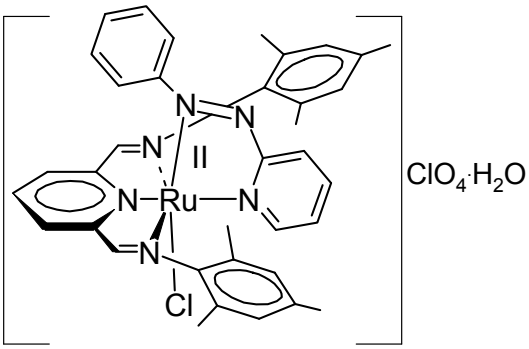

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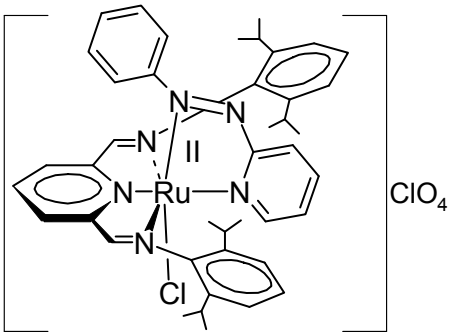

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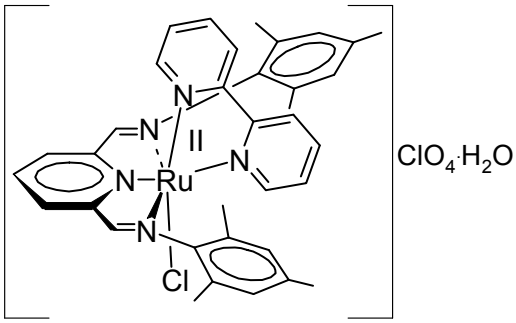

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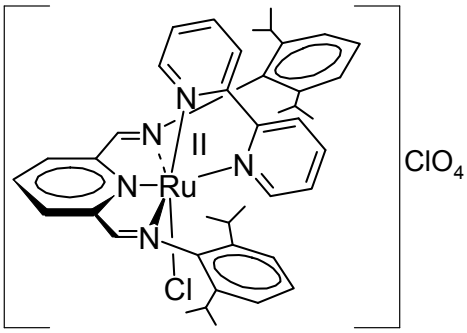

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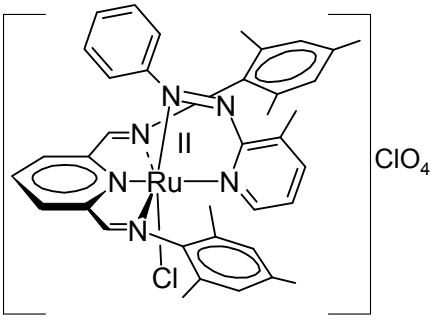

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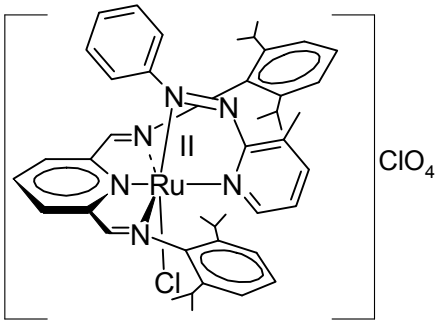

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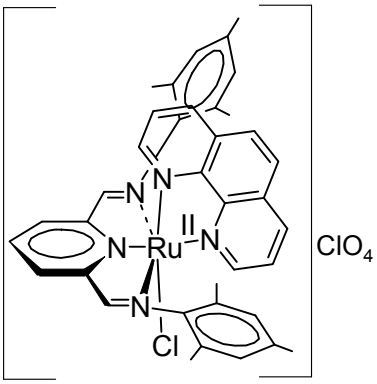

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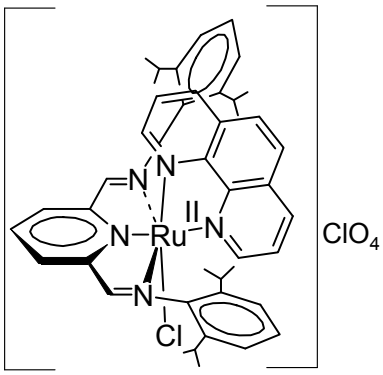

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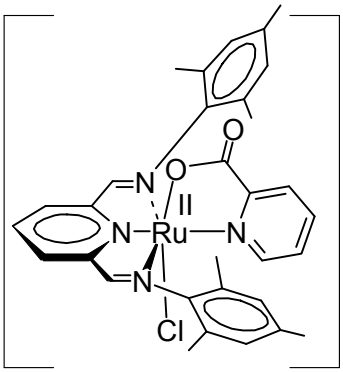

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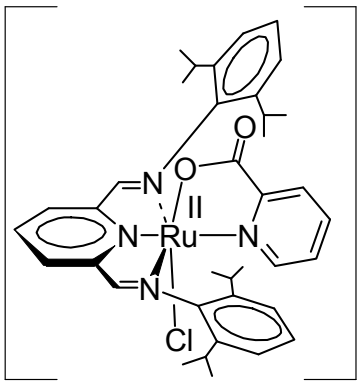

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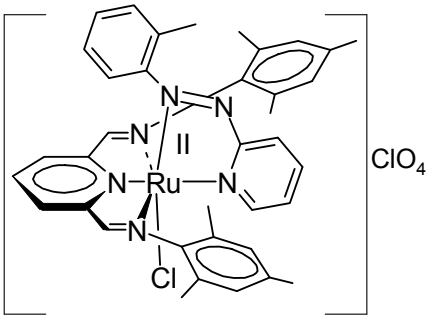

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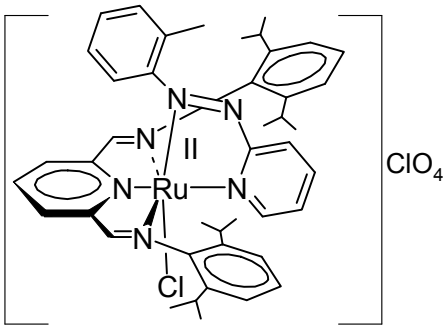

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