New half sandwich-type Ru(II) coordination compounds characterized by the *fac*-Ru(dmso-S)$_3$ fragment: influence of the face-capping group on the chemical behavior and *in vitro* anticancer activity.

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Supplementary Information

Table S1. Selected coordination bond distances (Å) and angles (°) for compound *trans*-$[RuCl_2(dmso\text{-}S)_2(en)]$ (**2**).

Complex A		Complex B	
Ru(1)-S(1)	2.2485(11)	Ru(2)-S(3)	2.2375(11)
Ru(1)-S(2)	2.2240(12)	Ru(2)-S(4)	2.2462(13)
Ru(1)-Cl(1)	2.4193(11)	Ru(2)-Cl(3)	2.4252(11)
Ru(1)-Cl(2)	2.3885(12)	Ru(2)-Cl(4)	2.3886(12)
Ru(1)-N(1)	2.135(3)	Ru(2)-N(3)	2.146(3)
Ru(1)-N(2)	2.132(3)	Ru(2)-N(4)	2.120(3)

S(1)-Ru(1)-S(2)	94.83(5)	S(3)-Ru(2)-S(4)	94.92(4)
S(1)-Ru(1)-Cl(1)	92.16(4)	S(3)-Ru(2)-Cl(3)	95.81(4)
S(1)-Ru(1)-Cl(2)	92.86(4)	S(3)-Ru(2)-Cl(4)	88.14(4)
S(1)-Ru(1)-N(1)	175.34(9)	S(3)-Ru(2)-N(3)	167.99(11)
S(1)-Ru(1)-N(2)	94.77(9)	S(3)-Ru(2)-N(4)	88.59(9)
S(2)-Ru(1)-Cl(1)	92.94(5)	S(4)-Ru(2)-Cl(3)	90.95(4)
S(2)-Ru(1)-Cl(2)	91.18(5)	S(4)-Ru(2)-Cl(4)	94.28(4)
S(2)-Ru(1)-N(1)	89.83(9)	S(4)-Ru(2)-N(3)	96.66(10)
S(2)-Ru(1)-N(2)	170.34(9)	S(4)-Ru(2)-N(4)	176.37(9)
Cl(1)-Ru(1)-Cl(2)	173.22(4)	Cl(3)-Ru(2)-Cl(4)	173.16(4)
Cl(1)-Ru(1)-N(1)	87.69(8)	Cl(3)-Ru(2)-N(3)	87.15(11)
Cl(1)-Ru(1)-N(2)	87.81(8)	Cl(3)-Ru(2)-N(4)	87.79(9)
Cl(2)-Ru(1)-N(1)	86.94(8)	Cl(4)-Ru(2)-N(3)	87.87(11)
Cl(2)-Ru(1)-N(2)	87.22(8)	Cl(4)-Ru(2)-N(4)	86.72(9)
N(1)-Ru(1)-N(2)	80.58(12)	N(3)-Ru(2)-N(4)	79.88(13)

Table S2. Selected coordination bond distances (Å) and angles (°) for compound [{*cis,fac*-$RuCl_2$(dmso-S)$_3$}$_2$(μ-en)] (**3**).

Ru(1)-S(1)	2.2561(13)	Ru(2)-S(4)	2.2630(13)
Ru(1)-S(2)	2.2712(13)	Ru(2)-S(5)	2.2659(13)
Ru(1)-S(3)	2.2879(14)	Ru(2)-S(6)	2.2923(14)
Ru(1)-Cl(1)	2.4236(12)	Ru(2)-Cl(3)	2.4304(13)
Ru(1)-Cl(2)	2.4264(12)	Ru(2)-Cl(4)	2.4361(12)
Ru(1)-N(1)	2.132(4)	Ru(2)-N(2)	2.126(4)

S(1)-Ru(1)-S(2)	89.73(5)	S(4)-Ru(2)-S(5)	89.87(5)
S(1)-Ru(1)-S(3)	94.58(5)	S(4)-Ru(2)-S(6)	96.36(5)
S(1)-Ru(1)-Cl(1)	92.57(5)	S(4)-Ru(2)-Cl(3)	90.41(5)
S(1)-Ru(1)-Cl(2)	179.14(5)	S(4)-Ru(2)-Cl(4)	171.95(5)
N(1)-Ru(1)-S(1)	89.77(11)	N(2)-Ru(2)-S(4)	86.55(11)
S(2)-Ru(1)-S(3)	96.74(5)	S(5)-Ru(2)-S(6)	94.17(5)
S(2)-Ru(1)-Cl(1)	172.00(5)	S(5)-Ru(2)-Cl(3)	179.58(5)
S(2)-Ru(1)-Cl(2)	89.67(5)	S(5)-Ru(2)-Cl(4)	92.19(5)
N(1)-Ru(1)-S(2)	86.51(11)	N(2)-Ru(2)-S(5)	89.45(11)
S(3)-Ru(1)-Cl(1)	90.71(5)	S(6)-Ru(2)-Cl(3)	85.49(5)
S(3)-Ru(1)-Cl(2)	84.87(5)	S(6)-Ru(2)-Cl(4)	91.25(5)
N(1)-Ru(1)-S(3)	174.57(11)	N(2)-Ru(2)-S(6)	175.35(11)
Cl(1)-Ru(1)-Cl(2)	88.11(4)	Cl(3)-Ru(2)-Cl(4)	87.57(4)
N(1)-Ru(1)-Cl(1)	85.84(11)	N(2)-Ru(2)-Cl(3)	90.88(11)
N(1)-Ru(1)-Cl(2)	90.82(10)	N(2)-Ru(2)-Cl(4)	85.69(11)
C(13)-N(1)-Ru(1)	118.7(3)	C(14)-N(2)-Ru(2)	119.5(3)

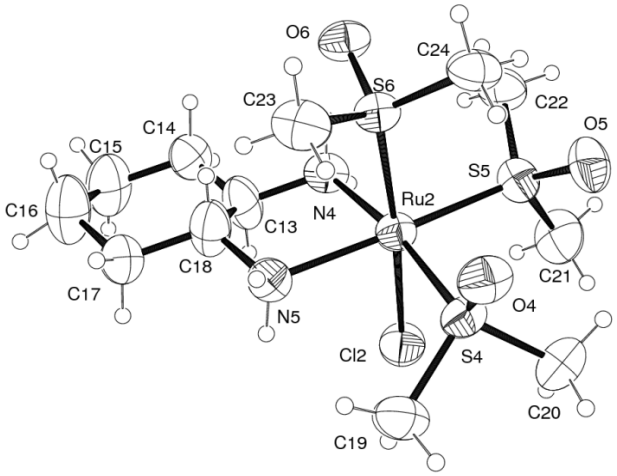

Figure 1S. ORTEP drawing (thermal ellipsoids at 35% probability level) of *fac*-[RuCl(dmso-S)$_3$(dach)][PF$_6$] (**5**B).