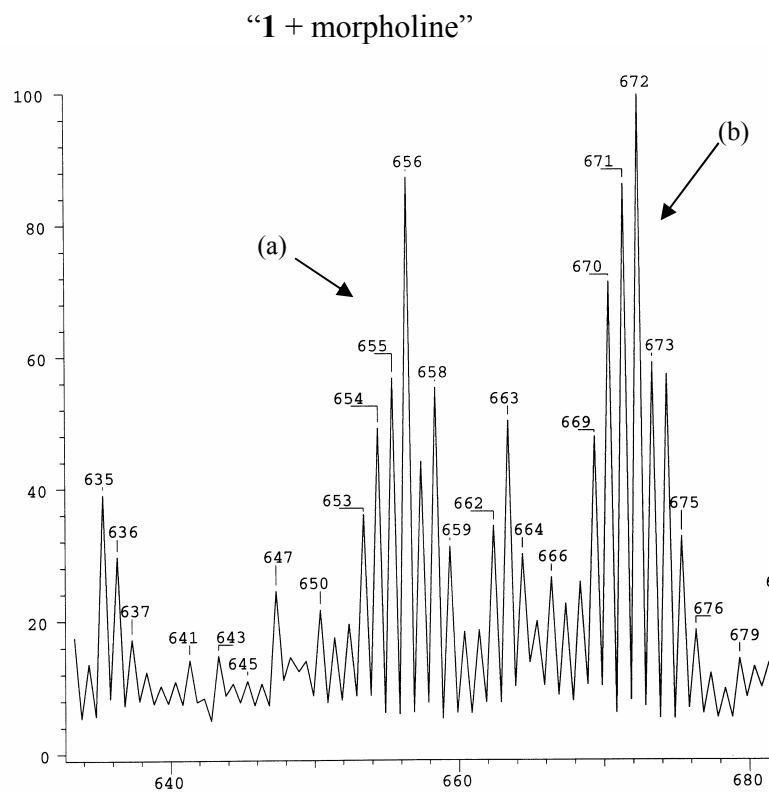# Supplementary Material

for
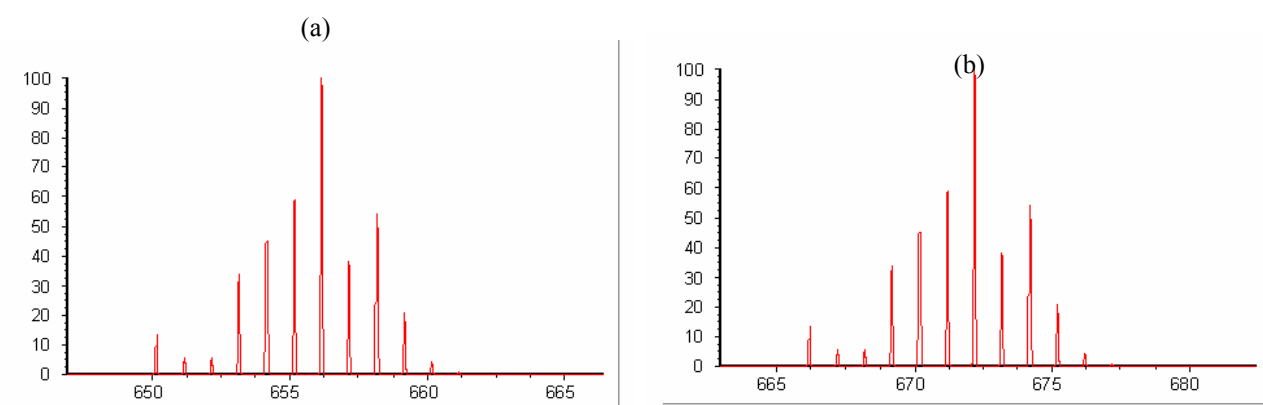
"Nitrido-ruthenium(VI) and Osmium(VI) Complexes of Multianionic Chelating (N, O) Ligands. Reactions with Nucleophiles, Electrophiles and Oxidizing Agents"

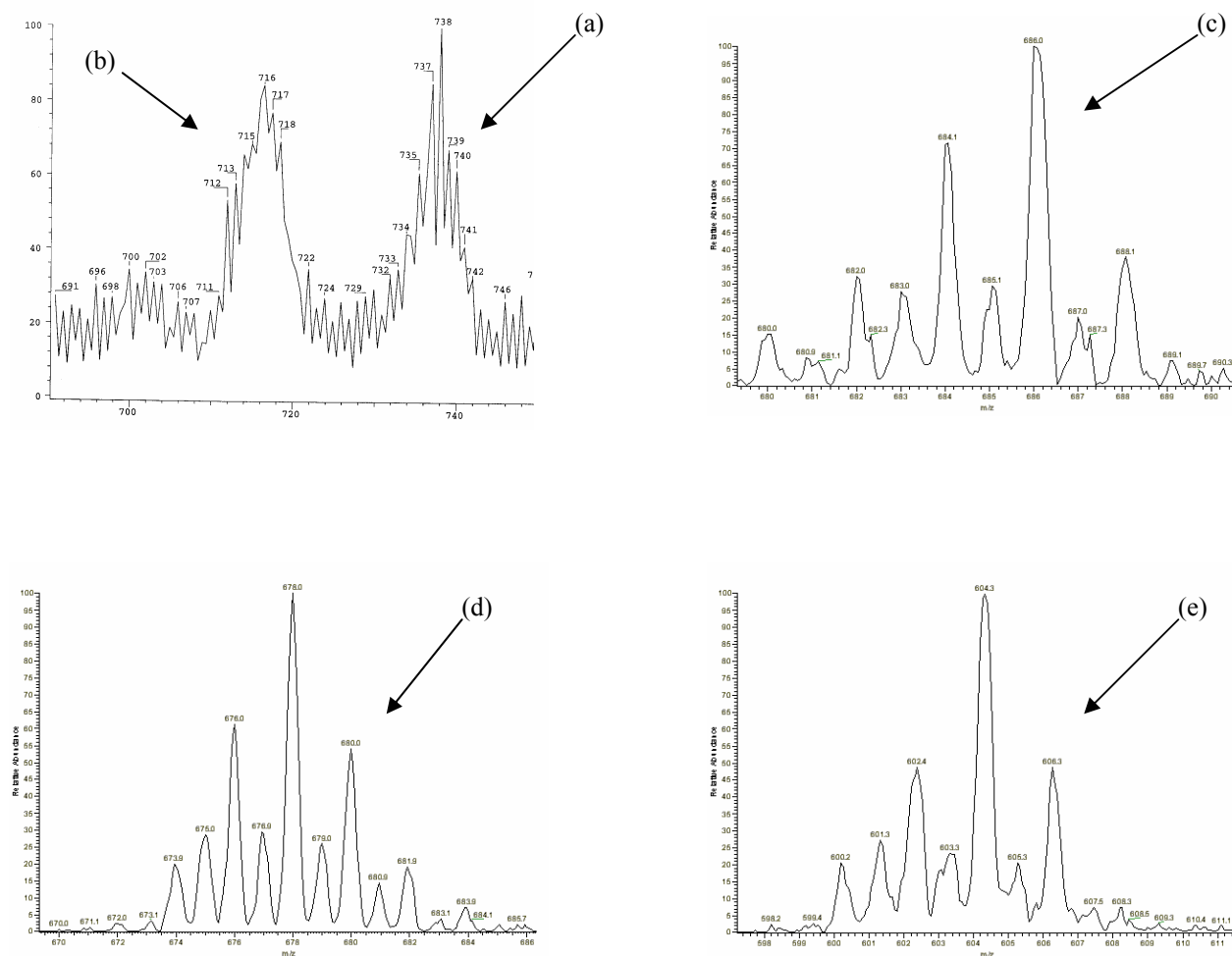*Ka-Lai Yip, Wing-Yiu Yu, Pui-Ming Chan, Nian-Yong Zhu and Chi-Ming Che**

This material contains the electrospray ionization mass spectra for the reactions of "$[Ru^{VI}(N)(Cl]$ (**1**) + morpholine", "$[n-Bu_4N][Os^{VI}(N)(L^2)]$ + $PhI(OAc)_2$" and "$[n-Bu_4N][Os^{VI}(N)(L^3)]$ + $PhI(OAc)_2$" (6 pages).
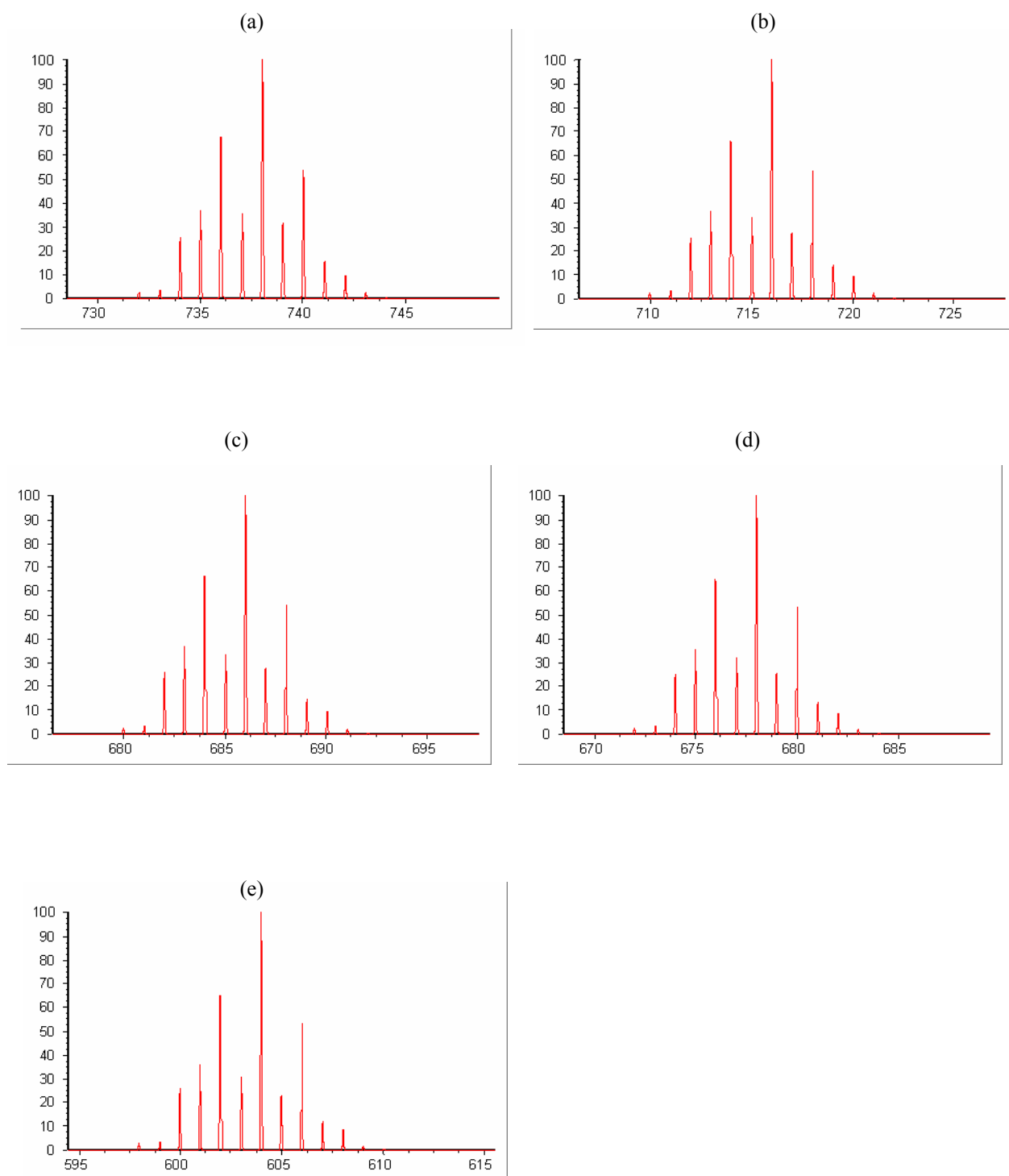
"**1** + morpholine"

**Figure S1. ESI-MS spectrum of the reaction mixture of "1 + morpholine".
Experimental isotopic distribution patterns for (a) [(L^1)Ru(C$_4$H$_9$NO)]$^+$ (*m/z* = 656) and (b) [(L^1)Ru(N)(C$_4$H$_9$NO)]$^+$ (*m/z* = 672)**
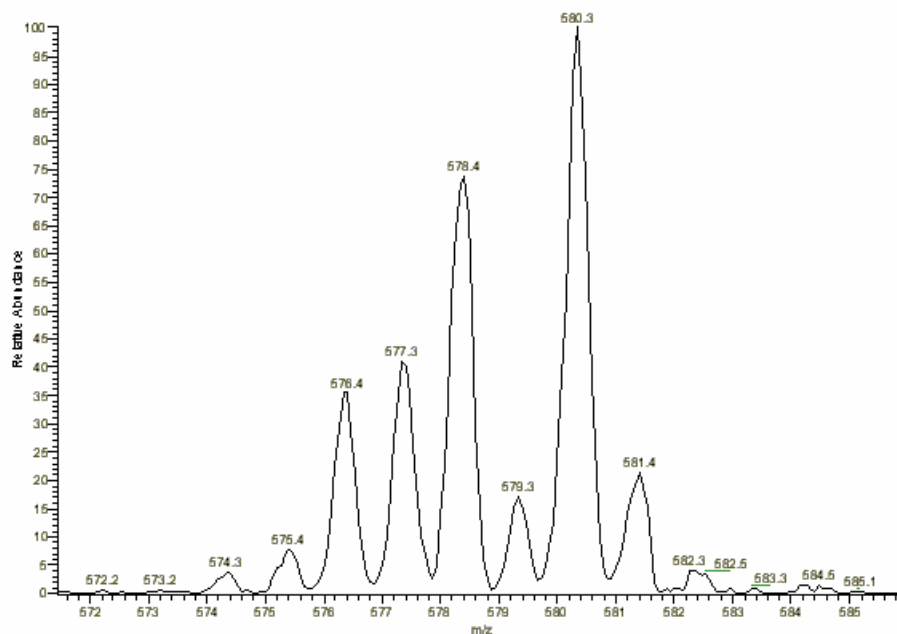
(a)

(b)

Figure S2. Calculated isotopic distribution patterns for (a) [(L^1)Ru(C$_4$H$_9$NO)]$^+$ (m/z = 656) and (b) [(L^1)Ru(N)(C$_4$H$_9$NO)]$^+$ (m/z = 672)
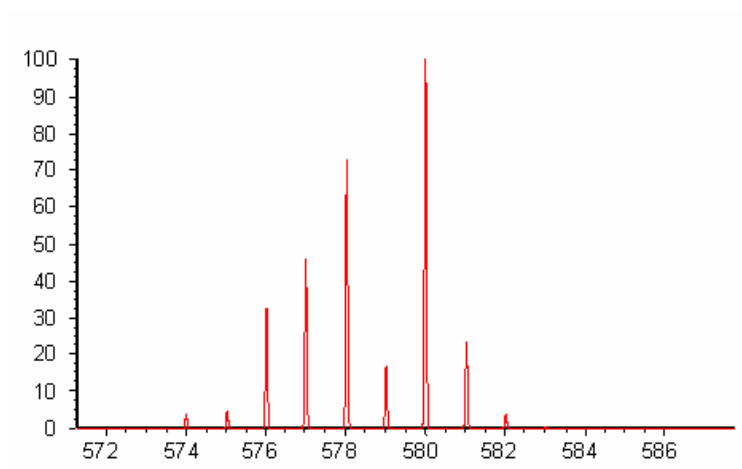
"[n-Bu$_4$N][Os^{VI}(N)(L^2)] + PhI(OAc)$_2$"

Figure S3. ESI-MS spectrum of the reaction mixture "[n-Bu$_4$N][Os^{VI}(N)(L^2)] + PhI(OAc)$_2$".Experimental isotopic distribution patterns for (a) [(L^2)Os^{IV}(Hpz)(pz)]$^-$ (*m/z* = 738), (b) [(L^{2}O$_2$)Os^{VI}(N)(Hpz)]$^-$ (*m/z* = 716), (c) [(L^2)Os^{VI}(N)(Hpz)]$^-$ (*m/z* = 686), (d) [(L^2)Os^{VI}(N)(OAcH)]$^-$ (*m/z* = 678) and (e) [(L^2)Os^{III}]$^-$ (*m/z* = 604)

(a)

(b)

(c)

(d)

(e)

Figure S4. Calculated isotopic distribution patterns for (a) [(L²)Os^{IV}(Hpz)(pz)]⁻ (*m/z* = 738), (b) [(L²O₂)Os^{VI}(N)(Hpz)]⁻ (*m/z* = 716), (c) [(L²)Os^{VI}(N)(Hpz)]⁻ (*m/z* = 686), (d) [(L²)Os^{VI}(N)(OAcH)]⁻ (*m/z* = 678). and (e) [(L²)Os^{III}]⁻ (*m/z* = 604)

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"[n-Bu$_4$N][Os^{VI}(N)(L^3)] + PhI(OAc)$_2$"

Figure S5. ESI-MS spectrum of the reaction mixture "[n-Bu$_4$N][Os^{VI}(N)(L^3)] + PhI(OAc)$_2$".Experimental isotopic distribution patterns for [(L^{3}O$_2$)Os^{VI}(N)]$^-$ (*m/z* = 580)

Figure S6. Calculated isotopic distribution pattern for [(L^{3}O$_2$)Os^{VI}(N)]$^-$ (*m/z* = 580)