Electronic Supplementary Material (ESI) for Dalton Transactions. This journal is © The Royal Society of Chemistry 2018

## **Supporting Information**

## Rhodafuran from a Methoxy(alkenyl)carbene by the Rhoda-1,3,5-hexatriene Route.

M. Talavera,\* R. Pereira-Cameselle and S. Bolaño\*

Departamento de Química Inorgánica. Universidad de Vigo. Campus Universitario, E-36310 Vigo (Spain).

NMR spectra:



Figure S1:  ${}^{31}P{}^{1}H$  NMR spectrum (161 MHz) of 1 in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S3:  ${}^{13}C{}^{1}H$  NMR spectrum (100 MHz) of 1 in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S4:  ${}^{31}P{}^{1}H$  NMR spectrum (161 MHz) of 2 in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S5: <sup>1</sup>H NMR spectrum (400 MHz) of **2** in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S6: Jmod NMR spectrum (100 MHz) of 2 in CD<sub>2</sub>Cl<sub>2</sub>.



**Figure S7**:  ${}^{31}P{}^{1}H$  NMR spectrum (161 MHz) of **3** in acetone- $d_6$ .



Figure S8: <sup>1</sup>H NMR spectrum (400 MHz) of **3** in acetone- $d_6$ .



**Figure S9**: Jmod NMR spectrum (100 MHz) of **3** in acetone- $d_6$  at 253 K.



**Figure S10**:  $\{^{13}C, ^{1}H\}$  HMBC NMR spectrum of **3** in acetone- $d_6$  at 253 K.



**Figure S11**: <sup>1</sup>H NMR spectrum (400 MHz) of **4** in acetone- $d_6$ .



Figure S12: Jmod NMR spectrum (100 MHz) of 4 in acetone- $d_6$ .



**Figure S13**: <sup>31</sup>P{<sup>1</sup>H} NMR spectrum (161 MHz) of **5** in CD<sub>2</sub>Cl<sub>2</sub> at 253K.



**Figure S14**: <sup>1</sup>H NMR spectrum (400 MHz) of **5** in CD<sub>2</sub>Cl<sub>2</sub> at 253K.



Figure S15: Jmod NMR spectrum (100 MHz) of 5 in CD<sub>2</sub>Cl<sub>2</sub> at 253K.



**Figure S16**:  $\{^{13}C, ^{1}H\}$  HMBC NMR spectrum of **5** in CD<sub>2</sub>Cl<sub>2</sub> at 253K.



Figure S17:  ${}^{31}P{}^{1}H$  NMR spectrum (161 MHz) of 6 in CD<sub>2</sub>Cl<sub>2</sub> at 253K.



**Figure S18**: <sup>1</sup>H NMR spectrum (400 MHz) of **6** in  $CD_2Cl_2$  at 253K.



**Figure S20**: <sup>1</sup>H NMR spectrum (400 MHz) of **7** in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S21: Jmod NMR spectrum (100 MHz) of 7 in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S23: <sup>1</sup>H NMR spectrum (400 MHz) of 8 in CD<sub>2</sub>Cl<sub>2</sub>.



Figure S24: Jmod NMR spectrum (100 MHz) of 8 in CD<sub>2</sub>Cl<sub>2</sub>.