# Synthesis and Structural Characterization of a Series of One-dimensional Heteronuclear Dirhodium-Silver Coordination Polymers 

Paula Cruz ${ }^{\ddagger, 1}$, Estefania Fernandez-Bartolomé $\neq, 1$, Miguel Cortijo ${ }^{* 1}$, Patricia Delgado-Martínez ${ }^{2}$, Rodrigo González-Prieto ${ }^{1}$, José L. Priego, ${ }^{* 1}$ M. Rosario Torres ${ }^{2}$, and Reyes Jiménez-Aparicio ${ }^{* 1}$<br>1 Departamento de Química Inorgánica, Facultad de Ciencias Químicas, Universidad Complutense de Madrid, Ciudad Universitaria, E-28040 Madrid, Spain.<br>${ }^{2}$ Centro de Asistencia a la Investigación Difracción de Rayos X, Facultad de Ciencias Químicas, Universidad Complutense de Madrid, E-28040 Madrid, Spain.<br>* Correspondence: miguelcortijomontes@ucm.es (M.C); bermejo@quim.ucm.es (J.L.P.); reyesja@quim.ucm.es (R.J.-A.).<br>$\ddagger$ Both authors contributed equally to this work.

## TABLE OF CONTENTS

Figure S1. Intermolecular interactions found in the structure of $\mathbf{1 b}$
Figure S2. View of the chains that form $\mathbf{3 b}$ along the $c$ axis in a $2 \times 2 \times 2$ cell packing
Figure S3. Representation of the structure of 3a along the $a$ axis in a $2 \times 2 \times 2$ cell packing
Figure S4. Representation of the structure of $\mathbf{3 b}$ along the $c$ axis in a $2 \times 2 \times 2$ cell packing
Figure S5. View of the chains that form 4 along the direction of the Rh-Rh bond
Figure S6. View of the chains that form 5 along the direction of the Rh-Rh bond
Figure S7. Representation of the structure of 4 along the $a$ axis 5
Figure S8. Representation of the structure of 5 along the $a$ axis
Figure S9. Interactions found between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of 3a

Figure S10. Interactions found between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of $\mathbf{3 b}$
Figure S11. Closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of of 4
Figure S12. Interactions found between the closest ( $\left.\mathrm{PPh}_{4}\right)^{+}$cations in the structure of $\mathbf{5}$
Figure S13. Representation of the structure of $\mathbf{6}$ along the c axis and view of the interactions between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations.

Figure S14. Interactions found between the closest cations and anionic chains in the structure of 411


Figure S1. Intermolecular interactions found in the structure of $\mathbf{1 b}$. Thermal ellipsoids are omitted for clarity.


Figure S2. View of the chains that form $\mathbf{3 b}$ along the $c$ axis.


Figure S3. Representation of the structure of 3a along the $a$ axis.


Figure S4. Representation of the structure of $\mathbf{3 b}$ along the $c$ axis.


Figure S5. View of the chains that form 4 along the direction of the Rh-Rh bond. The substituent of the carboxylate groups have been omitted for clarity.










Figure S6. View of the chains that form 5 along the direction of the Rh-Rh bond. The substituent of the carboxylate groups have been omitted for clarity.


Figure S7. Representation of the structure of $\mathbf{4}$ along the $a$ axis. Thermal ellipsoids are omitted for clarity.


Figure S8. Representation of the structure of 5 along the $a$ axis. Thermal ellipsoids are omitted for clarity.



Figure S9. Interactions found between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of of 3a.



Figure S10. Interactions found between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of of 3b.


Figure S11. Closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations in the structure of 4


Figure S12. Interactions found between the closest ( $\left.\mathrm{PPh}_{4}\right)^{+}$cations in the structure of of 5.


Figure S13. Representation of the structure of $\mathbf{6}$ along the c axis (top) and view of the interactions between the closest $\left(\mathrm{PPh}_{4}\right)^{+}$cations (bottom).


Figure S14. Interactions found between the closest cations and anionic chains in the structure of 4 .

