

5 Publications of Kim Renee Dunbar That Made an Impact in the Scientific Community

These Scientific Publications by Kim Renee Dunbar Represent Forefront Research in the Field of Inorganic Chemistry

COLLEGE STATION, TEXAS, USA, July 1, 2019 /EINPresswire.com/ -- [Kim Renee Dunbar](#), a leader in inorganic chemistry, has received many awards and written hundreds of publications throughout her career. She received her Ph.D. in inorganic at Purdue University and is now a professor at Texas A&M University, holding the Davidson Chair of Science and the Distinguished Professorship of Chemistry there.

Kim Renee Dunbar's research has been focused on a wide range of areas, with extensive research in synthetic, biological and physical inorganic chemistry. Here are just five of the publications of Kim Renee Dunbar that have been influential and made a difference in the inorganic chemistry scientific community.

1. "Novel Binding Interactions of the DNA Fragment d(pGpG) Cross-Linked by the Antitumor Active Compound Tetrakis (m-carboxylato)dirhodium(II,II)": H. T. Chifotides, K. M. Koshlap, L. M. Prez, [K. R. Dunbar](#), J. Am. Chem. Soc. 2003. According to the abstract of this publication, "Insight into the N7/O6 equatorial binding interactions of the antitumor active complex... with the nucleotide 5'-GMP and the DNA fragment d(pGpG) has been obtained by one- (1D) and two-dimensional (2D) NMR spectroscopy."

2. "A Remarkable Family of Rhodium Acetonitrile Compounds Spanning Three Oxidation States and with Nuclearities Ranging from Mononuclear and Dinuclear to One-Dimensional Chains": M. E. Prater, L. E. Pence, R. Clrac, G. M. Finniss, C. Campana, P. Auban-Senzier, D. Jrome, E. Canadell, K. R. Dunbar, J. Am. Chem. Soc. 1999.

According to the abstract of this publication, "A series of homoleptic cations of Rh(I,II), Rh(II), and Rh(III) have been synthesized and characterized in the solid-state and in solution... The mixed-ligand, square planar cation... was found to form a 1-D stack in the solid state, unlike previously reported salts with bulky counterions. For all of the compounds under investigation, infrared spectroscopy and X-ray studies were performed. The mixed-valence product was also characterized by EPR spectroscopy and SQUID magnetometry."

3. Metal-organic frameworks as platforms for isolating individual single-molecule magnets in pores. Joshua B. Pyser, Darpandee Aulakh, Xuan Zhang, Andrey A. Yakovenko, [Kim R. Dunbar](#) and Mario Wriedt, J. Am. Chem. Soc., 2015.



According to the abstract of this publication, "The results provide incontrovertible evidence that the magnetic composite, SMM@MOF, combines key SMM properties with the functional properties of MOFs. Most importantly, the incorporated SMMs exhibit a significantly enhanced thermal stability with SMM loading advantageously occurring at the periphery of the bulk MOF crystals with only a single SMM molecule isolated in the transverse direction of the pores."

4. Optimizing the Electronic Properties of Photoactive Anticancer Oxypyridine Bridged Dirhodium(II,II) Complexes, Zhanyong Li, Amanda David, Bryan A. Albani, Jean-Philippe Pellois, Claudia Turro, and Kim R. Dunbar, *J. Am. Chem. Soc.*, 2014.

According to the abstract of this publication, "These results clearly demonstrate the importance of tuning the ligand field around the dimetal center to maximize the photoreactivity and achieve the best photodynamic action."

5. Cyanide Single Molecule Magnets Exhibiting Reversible, Solvent Dependent "On" and "Off" Exchange Bias Behavior. Dawid Pinkowicz, Heather I. Southerland, Carolina Avendaño, Andrey Prosvirin, Wolfgang Wernsdorfer, Kasper S. Pedersen, Jan Dreiser, Rodolphe Clérac and Kim R. Dunbar, *J. Am. Chem. Soc.*, 2015.

According to the abstract of this publication, "It was found that all compounds exhibit switchable single-molecule magnet (SMM) and exchange-bias behavior depending on the interstitial methanol content."

Caroline Hunter
Web Presence, LLC
+1 7865519491
[email us here](#)

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