

## List of publications - Dr. V. Zamudio-Bayer

24. M. Walter, M. Vogel, **V. Zamudio-Bayer**, R. Lindblad, T. Reichenbach, K. Hirsch, A. Langenberg, J. Rittmann, A. Kulesza, R. Mitrić, M. Moseler, T. Möller, B. von Issendorff, and J. T. Lau, *Experimental and Theoretical 2p Core-Level Spectra of Size-Selected Gas-Phase Aluminum and Silicon Cluster Cations: Chemical Shifts, Geometric Structure, and Coordination-Dependent Screening*, Phys. Chem. Chem. Phys. 21, 6651 (2019).
23. **V. Zamudio-Bayer**, K. Hirsch, A. Langenberg, A. Lawicki, A. Terasaki, B. von Issendorff, and J. T. Lau, *Large orbital magnetic moments in small, free cobalt cluster ions  $\text{Co}_n^+$  with  $n \leq 9$* , J. Phys.: Condens. Matter 30, 464002 (2018).
22. D. Egorov, S. Bari, R. Boll, S. Dörner, S. Deinert, S. Techert, R. Hoekstra, **V. Zamudio-Bayer**, R. Lindblad, C. Bülow, M. Timm, B. von Issendorff, J. T. Lau, and T. Schlathölter, *Near-edge soft X-ray absorption mass spectrometry of protonated melittin*, J. Am. Soc. Mass Spectrom. 148, 194302 (2018).
21. S. C. Meier, A. Holz, J. Kulenkampff, A. Schmidt, D. Kratzert, D. Himmel, D. Schmitz, E. -W. Scheidt, W. Scherer, C. Bülow, M. Timm, R. Lindblad, S. T. Akin, **V. Zamudio-Bayer**, B. von Issendorff, M. A. Duncan, J. T. Lau, and I. Krossing, *Access to the Bis-benzene Cobalt(I) Sandwich Cation and its Derivatives: Synthons for a “Naked” Cobalt(I) Source?*, Angew. Chem. Int. Ed. 57, 9310 (2018).
20. S. Bari, D. Egorov, T. L. C. Jansen, R. Boll, R. Hoekstra, S. Techert, **V. Zamudio-Bayer**, C. Bülow, R. Lindblad, G. Leistner, A. Lawicki, K. Hirsch, P. Miedema, B. von Issendorff, J. T. Lau, and T. Schlathölter, *Soft x-ray spectroscopy as a probe for gas-phase protein conformation: electron impact ionization from within*, Chem. Eur. J. 24, 7631 (2018).
19. **V. Zamudio-Bayer**, R. Lindblad, C. Bülow, G. Leistner, A. Terasaki, B. von Issendorff, and J. T. Lau, *Electronic ground state of  $\text{Ni}_2^+$* , J. Chem. Phys. 145, 194302 (2016).

18. S. T. Akin, **V. Zamudio-Bayer**, K. Duanmu, G. Leistner, K. Hirsch, C. Bülow, A. Ławicki, A. Terasaki, B. von Issendorff, D. G. Truhlar, J. T. Lau, and M. A. Duncan, *Size-dependent ligand quenching of ferromagnetism in  $\text{Co}_3(\text{benzene})_n^+$  clusters studied with XMCD spectroscopy*, J. Phys. Chem. Lett. 7, 4568 (2016).
17. **V. Zamudio-Bayer**, K. Hirsch, A. Langenberg, A. Ławicki, A. Terasaki, B. von Issendorff, and J. T. Lau, *Electronic ground states of  $\text{Fe}_2^+$  and  $\text{Co}_2^+$  as determined by x-ray absorption and x-ray magnetic circular dichroism spectroscopy*, J. Chem. Phys. 143, 244318 (2015).
16. **V. Zamudio-Bayer**, K. Hirsch, A. Langenberg, M. Kossick, A. Ławicki, A. Terasaki, B. von Issendorff, and J. T. Lau, *Direct observation of high-spin states in manganese dimer and trimer cations by x-ray magnetic circular dichroism spectroscopy in an ion trap*, J. Chem. Phys. 142, 234301 (2015).
15. K. Hirsch, **V. Zamudio-Bayer**, A. Langenberg, M. Vogel, J. Rittmann, S. Forin, T. Möller, B. von Issendorff, and J. T. Lau, *Impurity electron localization in early-transition-metal-doped gold clusters*, J. Phys. Chem. C 119, 11184 (2015).
14. C. Kasigkeit, K. Hirsch, A. Langenberg, T. Möller, J. Probst, J. Rittmann, M. Vogel, J. Wittich, **V. Zamudio-Bayer**, B. von Issendorff, and J. T. Lau, *Higher ionization energies from sequential vacuum-ultraviolet multiphoton ionization of size-selected silicon cluster cations*, J. Phys. Chem. C 119, 11148 (2015).
13. **V. Zamudio-Bayer**, K. Hirsch, A. Langenberg, M. Niemeyer, M. Vogel, A. Ławicki, A. Terasaki, B. von Issendorff, and J. T. Lau, *Maximum spin polarization in chromium dimer cations as demonstrated by x-ray magnetic circular dichroism spectroscopy*, Angew. Chem., Int. Ed. 54, 4498 (2015).
12. K. Hirsch, **V. Zamudio-Bayer**, A. Langenberg, M. Niemeyer, B. Langbehn, T. Möller, A. Terasaki, B. von Issendorff, and J. T. Lau, *Magnetic moments of chromium-doped gold clusters: The Anderson impurity model in finite systems*, Phys. Rev. Lett. 114, 087202 (2015).

11. A. Langenberg, K. Hirsch, A. Lawicki, **V. Zamudio-Bayer**, M. Niemeyer, P. Chmiela, B. Langbehn, A. Terasaki, B. von Issendorff, and J. T. Lau, *Spin and orbital magnetic moments of size-selected iron, cobalt, and nickel clusters and their link to the bulk phase diagrams*, Phys. Rev. B 90, 184420 (2014).
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9. K. Hirsch, **V. Zamudio-Bayer**, J. Rittmann, A. Langenberg, M. Vogel, T. Möller, B. von Issendorff, and J. T. Lau, *Initial- and final-state effects on screening and branching ratio in 2p x-ray absorption of size-selected free 3d transition metal clusters*, Phys. Rev. B 86, 165402 (2012).
8. K. Hirsch, **V. Zamudio-Bayer**, F. Ameseder, A. Langenberg, J. Rittmann, M. Vogel, T. Möller, B. von Issendorff, and J. T. Lau, *2p x-ray absorption of free transition-metal cations across the 3d transition elements: Calcium through copper*, Phys. Rev. A 85, 062501 (2012).
7. M. Vogel, C. Kasigkeit, K. Hirsch, A. Langenberg, J. Rittmann, **V. Zamudio-Bayer**, A. Kulesza, R. Mitrić, T. Möller, B. von Issendorff, and J. T. Lau, *2p core-level binding energies of size-selected free silicon clusters: Chemical shifts and cluster structure*, Phys. Rev. B 85, 195454 (2012).
6. M. Niemeyer, K. Hirsch, **V. Zamudio-Bayer**, A. Langenberg, M. Vogel, M. Kossick, C. Ebrecht, K. Egashira, A. Terasaki, T. Möller, B. von Issendorff, and J. T. Lau, *Spin coupling and orbital angular momentum quenching in free iron clusters*, Phys. Rev. Lett. 108, 057201 (2012).
5. J. T. Lau, M. Vogel, A. Langenberg, K. Hirsch, J. Rittmann, **V. Zamudio-Bayer**, T. Möller, and B. von Issendorff, *Communication: Highest occupied molecular orbital-lowest unoccupied molecular orbital gaps of doped silicon clusters from core level spectroscopy*, J. Chem. Phys. 134, 041102 (2011).

4. K. Hirsch, J. T. Lau, Ph. Klar, A. Langenberg, J. Probst, J. Rittmann, M. Vogel, **V. Zamudio-Bayer**, T. Möller, and B. von Issendorff, *X-ray spectroscopy on size-selected clusters in an ion trap: from the molecular limit to bulk properties*, J. Phys. B 42, 154029 (2009).
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2. J. T. Lau, K. Hirsch, P. Klar, A. Langenberg, F. Lofink, R. Richter, J. Rittmann, M. Vogel, **V. Zamudio-Bayer**, T. Möller, and B. von Issendorff, *X-ray spectroscopy reveals high symmetry and electronic shell structure of transition-metal-doped silicon clusters*, Phys. Rev. A 79, 053201 (2009).
1. J. T. Lau, J. Rittmann, **V. Zamudio-Bayer**, M. Vogel, K. Hirsch, Ph. Klar, F. Lofink, T. Möller, and B. von Issendorff, *Size Dependence of  $L_{2,3}$  branching ratio and  $2p$  core-hole screening in x-ray absorption of metal clusters*, Phys. Rev. Lett. 101, 153401 (2008).