Orientation of Pterin-6-Carboxylic Acid on Gold Capped Silicon Nanopillars Platforms: Surface Enhanced Raman Spectroscopy and Density Functional Theory Studies - DTU Orbit (01/01/2019)

Orientation of Pterin-6-Carboxylic Acid on Gold Capped Silicon Nanopillars Platforms: Surface Enhanced Raman Spectroscopy and Density Functional Theory Studies
The orientation of pterin-6-carboxylic acid on gold nanopillars was investigated by surface enhanced Raman spectroscopy and density functional theory methods. The experimentally vibrations from pterin-6-COOH free and attached to the Au surface display vibration features indicating chemical interaction of the pterin with the metal surface. The spectral feature evidenced that the pterin would adsorb on gold surface with a "lying down" configuration through the high intensity vibration of NH scissoring and rocking OH modes. The orientation study of pterins on gold nanopillars presented herein is believed to lead to new applications in biosensing field for detecting pterins of physiological importance.

General information
State: Published
Organisations: Department of Micro- and Nanotechnology, Nanoprobes, Center for Intelligent Drug Delivery and Sensing Using Microcontainers and Nanomechanics, Universidad Industrial de Santander, Universidad Santo Tomas, Bogota
Contributors: Castillo, J. J., Rozo, C. E., Bertel, L., Rindzevicius, T., Mendez-Sanchez, S. C., Martinez Ortega, F., Boisen, A.
Number of pages: 7
Pages: 971-977
Publication date: 2016
Peer-reviewed: Yes

Publication information
Journal: Journal of the Brazilian Chemical Society
Volume: 27
Issue number: 5
ISSN (Print): 0103-5053
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 1.46 SJR 0.357 SNIP 0.597
Web of Science (2017): Impact factor 1.444
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.21 SJR 0.363 SNIP 0.57
Web of Science (2016): Impact factor 1.198
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 1.21 SJR 0.334 SNIP 0.538
Web of Science (2015): Impact factor 1.096
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.25 SJR 0.383 SNIP 0.703
Web of Science (2014): Impact factor 1.129
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 1.27 SJR 0.398 SNIP 0.655
Web of Science (2013): Impact factor 1.253
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 1.4 SJR 0.465 SNIP 0.717
Web of Science (2012): Impact factor 1.283
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.33 SJR 0.438 SNIP 0.624
Web of Science (2011): Impact factor 1.434
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.437 SNIP 0.748
Web of Science (2010): Impact factor 1.343
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.406 SNIP 0.751