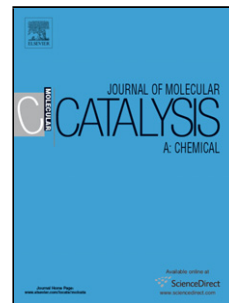


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Author: Robert Wojcieszak Iolanda M. Cuccovia Márcia A. Silva Liane M. Rossi



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## Selective oxidation of glucose to glucuronic acid by cesium-promoted gold nanoparticle catalyst

Robert Wojcieszak,<sup>\*,[a][c]</sup> Iolanda M. Cuccovia,<sup>[b]</sup> Márcia A. Silva,<sup>[b]</sup> and Liane M. Rossi<sup>\*,[a]</sup>

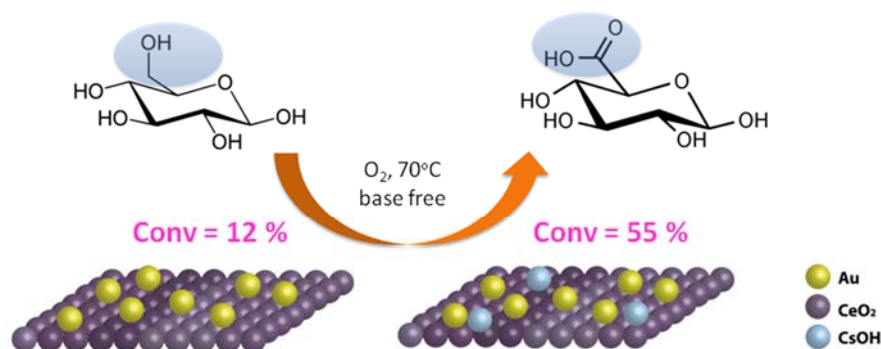
<sup>a</sup>Departamento de Química Fundamental, Instituto de Química, Universidade de São Paulo, Av. Professor Lineu Prestes, 748, São Paulo, 05508-000 SP, Brazil

<sup>b</sup>Departamento de Bioquímica, Instituto de Química, Universidade de São Paulo, Av. Professor Lineu Prestes, 748, São Paulo, 05508-000 SP, Brazil

<sup>c</sup>Univ. Lille, CNRS, Centrale Lille, ENSCL, Univ. Artois, UMR 8181 - UCCS - Unité de Catalyse et Chimie du Solide, F-59000 Lille, France

\*Corresponding authors: [robert.wojcieszak@univ-lille1.fr](mailto:robert.wojcieszak@univ-lille1.fr), [lrossi@iq.usp.br](mailto:lrossi@iq.usp.br)

### Graphical abstract



### Highlights

- First gold catalyzed oxidation of sugars into glucuronic acid;
- Selective oxidation of glucose, fructose and maltose into glucuronic acid;
- Cesium hydroxide as an excellent dopant for Au/CeO<sub>2</sub> catalyst;
- Oxidation in the presence of added base is not selective.

**Abstract:** Gold catalysts outperform palladium and platinum catalysts for the oxidation of sugars with high activity and selectivity towards aldonic acids. The oxidation into other sugar acids, such as uronic and aldaric acids, has been scarcely investigated. Au nanoparticles supported on CeO<sub>2</sub> using a soft chemical reduction method with hydrazine, were active for the selective oxidation of low weight carbohydrates (glucose, fructose, maltose) into glucuronic acid. The oxidation occurred in aqueous solution at low temperature using O<sub>2</sub> as final

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