

Docteur Philippe SIMON

IR CNRS

Laboratoire de Chimie des Processus Biologiques

Collège de France

01 44 27 12 54

philippe.simon@college-de-france.fr



RESEARCH INTERESTS

Bio-Organic Chemistry

Synthesis of modified oligonucleotides, PNA and peptides

Peptide synthesis

Liste de publications

2024

18- An organic O donor for biological hydroxylation reactions

Simon P., Ferizhendi K., Pelosi L., Séchet E., Arulanandam R., Chehade M., Rey M., Onal D., Flandrin L., Chreim R., Faivre B., Vo S., Arias-Cartin R., Barras F., Fontecave M., Bouveret E., Lombard M., Pierrel F.

Proc. Natl. Acad. Sci. U S A., 2024, 121(13).

2021

17- An enzymatic activation of formaldehyde for nucleotide methylation.

Bou-Nader C., Stull F., Pecqueur L., Simon P., Guérineau V., Royant A., Fontecave M., Lombard M., Palfey P., Hamdane D.

Nat. Comm., 2021, 12 (1), 4542-4549

2017

16- Molecular Cobalt Complexes with Pendant Amines for Selective Electrocatalytic Reduction of Carbon Dioxide to Formic Acid.

Roy S., Sharma B., Pécaut J., Simon P., Fontecave M., Tran Phong D., Derat E., Artero V.

J. Am. Chem. Soc., 2017, 139 (10), 3685–3696.

15- Porous dendritic copper: an electrocatalyst for highly selective CO₂ reduction to formate in water/ionic liquid electrolyte.

Huan T. N., Simon P., Rouse G., Génois I., Artero V., Fontecave M.

Chem. Sci., 2017, 8, 742-747.

2016

14- CO₂ reduction to CO in water: carbon nanotube-gold nanohybrid as a selective and efficient electrocatalyst.

Huan T.N., Prakash P., Simon P., Rouse G., Xu X., Artero V., Gravel E., Doris E., Fontecave M.

ChemSusChem. 2016, 9 (17), 2317-2322.

13- Cu/Cu₂O electrodes and CO₂ reduction to formic acid: Effects of organic additives on surface morphology and activity.

Huan T.N., Simon P., Benayad A., Guetaz L., Artero V., Fontecave M.
Chemistry. 2016, 22 (39), 14029-14035.

2015

12- From molecular copper complexes to composite electrocatalytic materials for selective reduction of CO₂ to formic acid.

Huan T. N., Andreiadis E. S., Heidkamp, J., Simon P., Derat E., Cobo S., Royal G., Dau H., Artero V., Fontecave M.

J. Mat. Chem. A. 2015, 3, 3901-3907.

11- Electro-assisted Reduction of CO₂ to CO and Formaldehyde by the (TOA)₆[α -SiW₁₁O₃₉Co(\square)] Polyoxometalate

Girardi M., Blanchard S., Griveau S., Simon P., Fontecave M., Bedioui F., Proust A.

Eur. J. Chem. 2015, 22, 3642-3648.

2012

10- Flavin conjugates for delivery of peptide nucleic acids

Marlin F., Simon P., Bonneau S., Alberti P., Cordier C., Boix C., Perrouault L., Fossey A., Saison-Behmoaras T., Fontecave M., Giovannageli C.

ChemBioChem. 2012, 13 (17), 2593-2598.

2011

9- A steric blocker of translation elongation inhibits IGF-1R expression and cell transformation.

Lecosnier S., Cordier C., Simon P., François J.C., Saison-Behmoaras T.

FASEB J. 2011, 25 (7), 2201-2210.

2010

8- Delivery of Oligonucleotides and Analogues – The Oligonucleotide Conjugate based Approach.

Marlin F., Simon P., Saison-Behmoaras T., Giovannageli C.

ChemBioChem 2010, 11 (11), 1493-1500.

2008

7- Targeting DNA with triplex-forming oligonucleotides to modify gene sequence

Simon P., Cannata F., Concordet, J-P., Giovannageli C.

Biochimie 2008, 90 (8), 1109-1116.

6- Sequence-specific DNA cleavage mediated by bipyridine polyamide conjugates.

Simon P., Cannata F., Halby L., Perrouault L., Boutorine A., Ryabinin V., Syniakov A., Giovannageli C.

Nucleic Acids Res. 2008, 36 (11), 3531-3538.

2007

5- Sequence-Specific Recognition of Double-Stranded DNA by Synthetic Minor Groove Binder Conjugates. Construction of Artificial Site-Specific Deoxyribonucleases

Boutorine A., Halby L., Simon P., Perrouault L., Giovannangeli C., Gursky G., Surovaya A., Grokhovsky S., Ryabinin V., Sinyakov A.

Nucleos. Nucleot. Nucl. 2007, 26 (10), 1559-1563.

2006

4- Formation of Isodialuric Lesion within DNA Oligomers via One Electron Oxidation of 5-hydroxyuracil: Characterization, Stability and Excision Repair

Simon P., Gasparutto D., Gambarelli S., Saint-Pierre C., Favier A., Cadet J.

Nucleic Acids Res. 2006, 34 (13), 3660-3669.

3- Sequence-Specific Nucleic Acid Damage by Peptide Nucleic Acid Conjugates That Can Be Enzyme-Activated

Simon P., Décout J-L., Fontecave M.

Angew. Chem. Int. Ed. 2006, 45 (41), 6859-6861.

2005

2- DNA Detection through Signal Amplification using NADH:Flavin Oxidoreductase and Oligonucleotide-Flavin Conjugates as Cofactors

Simon P., Dueymes C., Fontecave M., Décout J-L.

Angew. Chem. Int. Ed. 2005, 44 (18), 2764-2767.

2004

1- New Flavin and Deazaflavin Oligonucleotide Conjugates for the Amperometric Detection of DNA Hybridization

Cosnier S., Gondran C., Dueymes C., Simon P., Fontecave M., Décout J-L.

Chem. Comm. 2004, 1624-1625.