



Bibliothèque numérique de l'enssib

Extending the network: libraries and their partners, 17 au 20 juin 2003
32^e congrès LIBER

CrossRef and DOIs: New Developments

PENTZ, Ed
CrossRef

PENTZ, Ed. CrossRef and DOIs: New Developments. In *32nd LIBER Annual General Conference, Extending the network: libraries and their partners, Rome, du 17 au 20 juin 2003* [en ligne]. Format PDF.

Disponible sur : <<http://www.enssib.fr/bibliotheque-numerique/notice-1182>>

Ce document est « **tous droits réservés** ». Il est protégé par le droit d'auteur et le code de la propriété intellectuelle. Il est strictement interdit de le reproduire, dans sa forme ou son contenu, totalement ou partiellement, sans un accord écrit de son auteur.

L'ensemble des documents mis en ligne par l'enssib sont accessibles à partir du site : <http://www.enssib.fr/bibliotheque-numerique/>

CrossRef and DOIs: New Developments

32nd LIBER Annual General Conference

**Extending the Network: libraries and
their partners**

18 June 2003

Generational Change

- 73% of students use the Internet more than the library; only 9% use the library more than the Internet for information searching
- *Pew Internet and American Life Project College Students Survey. <http://www.pewinternet.org/>*

Losing Readers

- Many students are likely to use information found on search engines and various Web sites as research material...and faculty often report concerns about the number of URLs included in research paper bibliographies and the decrease in citations from traditional scholarly sources. *Pew Internet and American Life Project College Students Survey.*
<http://www.pewinternet.org/>

What do users want?

- “Quality is no longer defined just by content; it is now defined by content plus functionality...a significant portion of the research community is growing increasingly enamored of hyperlinked citations, personalized alerts, saved searches and other tools for working with the data”. *Mark Walker, The Seybold Bulletin, Vol 8, No. 35*
- The goal? Make things easy for the reader

Developments for Scholarly Journals

- If it's not online it doesn't exist...if it's not linked it doesn't exist
- Practice of citing other articles enhanced in the online world – linked references are a necessity
- The Article Economy
 - Journal issue deconstruction is accelerating
 - Article-by-article online publishing (volumes, issues, pages and print follow later); Virtual Journals being created
 - Publishing workflows are changing: “hourly” publishing
 - E-article is article “of record”

More Developments

- Digitization of older articles
- Unique article identification, persistent links at the article level, reference links required, traditional bibliographic data inadequate
- Collaboration and standards necessary to meet user demands

DOI – what is it?

- Like a bar code for physical objects – the Digital Object Identifier (DOI) is an alphanumeric string that:
 - Uniquely identifies a piece of content
 - Serves as a persistent, stable link to the location of the content
- DOIs can be assigned to any type of content at any level of granularity



<http://dx.doi.org/10.1038/nature01566>

DOI Directory Prefix Suffix



http://www.nature.com/cgi-taf/DynaPage.taf?file=/nature/journal/v422/n6932/full/nature01566_fs.html

letters to nature

Nature 422, 611 - 614 (2003); doi:10.1038/nature01566

Nature AOP, published online 6 April 2003

Catastrophic ape decline in western equatorial Africa

PETER D. WALSH*, KATE A. ABERNETHY†‡, MAGDALENA BERMEJOS, RENE BEYERSII, PAUWEL DE WACHTER¶, MARC ELLA AKOU¶, BAS HUIJBREGTS¶, DANIEL IDIATA MAMBOUNGA#, ANDRE KAMDEM TOHAM¶, ANNELISA M. KILBOURNII, SALLY A. LAHM*, STEFANIE LATOURII, FIONA MAISELSII**, CHRISTIAN MBINAII, YVES MIHINDOUII, SOSTHÈNE NDONG OBIANG#, ERNESTINE NTSAME EFFA#, MALCOLM P. STARKEYI††, PAUL TELFER†‡‡, MARC THIBAUT¶, CAROLINE E. G. TUTIN†‡, LEE J. T. WHITEII & DAVID S. WILKIEII

* Department of Ecology and Evolutionary Biology, Guyot Hall, Princeton, New Jersey 08540, USA

† Centre International de Recherches Médicales, BP 769, Franceville, Gabon

‡ Department of Biological and Molecular Sciences, University of Stirling, Stirling FK9 4LA, UK

§ Departamento Biología Animal (Vertebrados), Facultad de Biología, Universidad de Barcelona, Avda. Diagonal 645, 08028 Barcelona, Spain

II Wildlife Conservation Society, Bronx, New York, New York 10460-1099, USA

¶ WWF Central Africa Regional Program Office, BP 9144, Libreville, Gabon

Ministère de l'Economie Forestière, des Eaux, de la Pêche chargé de l'Environnement et de la Protection de la Nature, Direction de la Faune et de la Chasse, BP 1128, Libreville, Gabon

* Institut de Recherche en Ecologie Tropicale, BP 13354, Libreville, Gabon

** Institute of Cell, Animal and Population Biology, Edinburgh University, Edinburgh EH9 3JT, UK

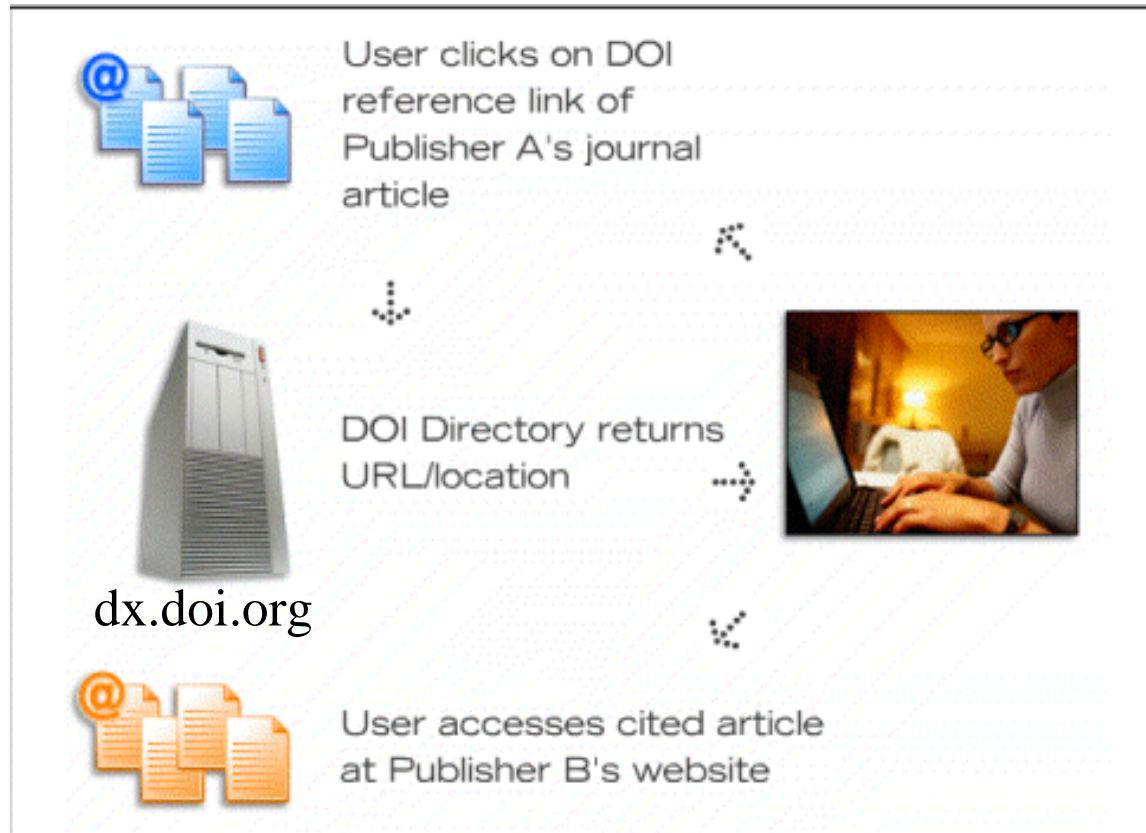
†† Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN, UK

‡‡ New York University, Department of Anthropology, 25 Waverly Place, New York, New York 10003, USA

Correspondence and requests for materials should be addressed to P.D.W. (e-mail: pwalsh@princeton.edu).

Because rapidly expanding human populations have devastated gorilla (*Gorilla gorilla*) and common chimpanzee (*Pan troglodytes*) habitats in East and West Africa, the relatively intact forests of western equatorial Africa have been viewed as the last stronghold of African apes¹. Gabon and the Republic of Congo alone are thought to hold roughly 80% of the world's gorillas² and most of the common chimpanzees¹. Here we present survey results conservatively indicating that ape populations in Gabon declined by more than half between 1983 and 2000. The primary cause of the decline in ape numbers during this period was commercial hunting, facilitated by the rapid expansion of mechanized logging. Furthermore, Ebola haemorrhagic fever is currently spreading through ape populations in Gabon and Congo and now rivals hunting as a threat to apes. Gorillas and common chimpanzees should be elevated immediately to 'critically endangered' status. Without aggressive investments in law enforcement, protected area management and Ebola prevention, the next decade will see our closest relatives pushed to the brink of extinction.

[contents](#)[pdf](#)[supplementary
information](#)[figure index](#)[methods](#)[references](#)[← item →](#)



CrossRef's Mission

- To provide services that bring the scholar to authoritative primary content, focusing on services that are best achieved through collective agreement by publishers
 - i.e. System for reference linking

What is PILA/CrossRef?

- Non-profit membership association
 - DOI Registration Agency for Scholarly Content
 - Registration of metadata and unique, persistent identifiers
 - Representation on IDF Board, TWG and RAWG
 - Reference linking service
 - Standards and Guidelines
 - Rules governing metadata and linking
 - Guidelines – using DOIs in journals and citations

What Does CrossRef do?

- Makes reference linking easy and reliable for journals, conference proceedings and books
- Technology Infrastructure
 - Persistent links using DOIs - no broken links in citations or database records (*Average half-life of a URL is 44 days*)
 - *Publishers update URLs in one location; about 50% of the records in CrossRef have already been updated*
- Business Infrastructure
 - Membership agreement sets rules and creates level playing field
 - no bilateral agreements needed – one agreement allows linking to over 200 publishers

How does CrossRef work?

- Publishers deposit metadata (in XML), including a DOI and URL, in CrossRef metadata database
- Members and affiliates then send references to query the central metadata database to find the DOI for the cited article
- DOIs are used to create reference links

The DOI Community



- Gateway to the DOI world



Developed by the International DOI Foundation

- Develops and maintains the DOI standard



Corporation for
National
Research Initiatives

- Develops and maintains the Handle system upon which the DOI executes

Quick Search [advanced] Author: (e.g., Smith, JS) Keyword(s): (matches on all terms)

Originally published In Press as [doi:10.1074/jbc.M200370200](https://doi.org/10.1074/jbc.M200370200) on April 30, 2002

J. Biol. Chem., Vol. 277, Issue 27, 24289-24293, July 5, 2002

A Monomeric L-Aspartase Obtained by *in Vitro* Selection*

Xiangduo Kong, Zhengqiang Li, Xiaojun Gou, Shizhen Zhu, Hongying Zhang, Xiaoping Wang, and Jin Zhang[†]

From the Key Lab for Molecular Enzymology and Engineering of Ministry of Education, Jilin University, Changchun 130023, Peoples Republic of China

Received for publication, January 14, 2002, and in revised form, April 3, 2002

Linking as navigation at the content level across publishers

- ▶ [Abstract of this Article \(FREE\)](#)
- ▶ [Reprint \(PDF\) Version of this Article](#)
- ▶ Similar articles found in:
 - [JBC Online](#)
 - [PubMed](#)
- ▶ [PubMed Citation](#)
- ▶ Search Medline for articles by:
 - [Kong, X.](#) || [Zhang, J.](#)
- ▶ Alert me when:
 - [new articles cite this article](#)
- ▶ [Download to Citation Manager](#)

▶ ABSTRACT

- ▲ [TOP](#)
- [ABSTRACT](#)
- ▼ [INTRODUCTION](#)
- ▼ [MATERIALS AND METHODS](#)
- ▼ [RESULTS](#)
- ▼ [DISCUSSION](#)
- ▼ [REFERENCES](#)

By mimicking the partial spatial structure of the dimer of the L-aspartase subunit, the central ten-helix bundle, and an "active site" between the cleft of domain 1 (D1) and domain 3 (D3) from different subunits, we designed L-aspartase variants, in which D1D2 and D2D3 were ligated with a random hexapeptide loop. As expected, we obtained the variant with the highest activity (relative activity is 21.3% of the native enzyme, named as drAsp017) by *in vitro* selection. The molecular weight of this variant, obtained from size-exclusion column chromatography, is about 81 kDa, which indicates that it is indeed a monomer, whereas native L-aspartase is a tetramer. The activity-reversibility of drAsp017 (10^{-7} M) was 80% after incubation for 30 min at 50 °C, while native enzyme only retained about 17% under the same conditions. Reactivation of drAsp017 denatured in 4 M guanidine HCl was independent of protein concentration at up to 20×10^{-8} M at 25 °C, whereas the protein concentration of native enzyme strongly affected its reactivation under the above conditions. The sensitivity of drAsp017 (10^{-7} M) to effective factors in the fumarate-amination reaction compared with native enzyme was also determined. Half-saturating concentrations of the activator L-aspartate and Mg^{2+} for drAsp017 (0.8 and 0.5 mM, respectively) are much higher than that of the native enzyme (0.10 and 0.15 mM, respectively). The data show that a monomeric L-aspartase is obtained by *in vitro* selection. Thus, the conversion of oligomeric proteins into their functional monomers could have important applications.

▶ All Versions of this Article:
[M2003/020071](#)

1. Zhang, H. Y., Zhang, J., Lin, L., Du, W. Y., and Lu, J. (1993) *Biochem. Biophys. Res. Commun.* **192**, 15-21 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
2. Shi, W., Dunbar, J., Jayasekera, M. M., Viola, R. E., and Farber, G. K. (1997) *Biochemistry* **36**, 9136-9144 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
3. Imaishi, H., Yumoto, M., and Tokushige, M. (1989) *Physiol. Chem. Phys. Med. NMR* **21**, 221-228 [[Medline](#)] [[Order article via Infotrieve](#)]
4. Jayasekera, M. M., Shi, W., Farber, G. K., and Viola, R. E. (1997) *Biochemistry* **36**, 9145-9150 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
5. Wang, L. J., Kong, X. D., Zhang, H. Y., Wang, X. P., and Zhang, J. (2000) *Biochem. Biophys. Res. Commun.* **276**, 346-349 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
6. Murase, S., Kawata, Y., and Yumoto, N. (1993) *J. Biochem. (Tokyo)* **114**, 393-397 [[Abstract](#)]
7. MacBeath, G., Kast, P., and Hilvert, D. (1998) *Science* **279**, 1958-1961 [[Abstract/Free Full Text](#)]
8. Kong, X. D., Liu, Y. M., Gou, X. J., Zhu, S. Z., Zhang, H. Y., Wang, X. P., and Zhang, J. (2001) *Biochem. Biophys. Res. Commun.* **289**, 137-142 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
9. Collinet, B., Garcia, P., Minard, P., and Desmadril, M. (2001) *Eur. J. Biochem.* **268**, 5107-5118 [[Abstract/Free Full Text](#)]
10. Nukaga, M., Haruta, S., Tanimoto, K., Kogure, K., Taniguchi, K., Tamaki, M., and Sawai, T. (1995) *J. Biol. Chem.* **270**, 5729-5735 [[Abstract/Free Full Text](#)]
11. Wang, C. W., and Liao, J. C. (2001) *J. Biol. Chem.* **276**, 41161-41164 [[Abstract/Free Full Text](#)]
12. Meyer, A., Schmid, A., Held, M., Westphal, A. H., Rothlisberger, M., Kohler, H. P., van Berkel, W. J., and Witholt, B. (2002) *J. Biol. Chem.* **277**, 5575-5582 [[Abstract/Free Full Text](#)]
13. Gonzalez-Blasco, G., Sanz-Aparicio, J., Gonzalez, B., Hermoso, J. A., and Polaina, J. (2000) *J. Biol. Chem.* **275**, 13708-13712 [[Abstract/Free Full Text](#)]
14. Canada, K. A., Iwashita, S., Shim, H., and Wood, T. K. (2002) *J. Bacteriol.* **184**, 344-349 [[Abstract/Free Full Text](#)]
15. Sun, L., Petrounia, I. P., Yagasaki, M., Bandara, G., and Arnold, F. H. (2001) *Protein Eng.* **14**, 699-704 [[Abstract/Free Full Text](#)]
16. Chirumamilla, R. R., Muralidhar, R., Marchant, R., and Nigam, P. (2001) *Mol. Cell. Biochem.* **224**, 159-168 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
17. Schmidt-Dannert, C. (2001) *Biochemistry* **40**, 13125-13136 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
18. Wiseman, A., Goldfarb, P. S., Woods, L., and Ridgway, T. (2001) *Trends Biotechnol.* **19**, 382 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
19. Lehmann, M., and Wyss, M. (2001) *Curr. Opin. Biotechnol.* **12**, 371-376 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
20. Kurtzman, A. L., Govindarajan, S., Vahle, K., Jones, J. T., Heinrichs, V., and Patten, P. A. (2001) *Curr. Opin. Biotechnol.* **12**, 361-370 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
21. Beck, C., Cranz, S., Solmaz, M., Roth, M., and Jeltsch, A. (2001) *Biochemistry* **40**, 10956-10965 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
22. Suenaga, H., Mitsuoka, M., Ura, Y., Watanabe, T., and Furukawa, K. (2001) *J. Bacteriol.* **183**, 5441-5444 [[Abstract/Free Full Text](#)]
23. Morawski, B., Quan, S., and Arnold, F. H. (2001) *Biotechnol. Bioeng.* **76**, 99-107 [[CrossRef](#)] [[Medline](#)] [[Order article via Infotrieve](#)]
24. ...

[Biochemical and Biophysical Research Communications](#)

Volume 192, Issue 1, 15 April 1993, Pages 15-21

[doi:10.1006/bbrc.1993.1375](https://doi.org/10.1006/bbrc.1993.1375) [? Cite or link using doi](#)

Copyright © 1993 Academic Press. All rights reserved.

This Document

- ▶ **Abstract**
- [PDF \(191 K\)](#)

Actions

- [E-mail Article](#)

Regular Article

Enhancement of the Stability and Activity of Aspartase By Random and Site-Directed Mutagenesis

Zhang H. Y., Zhang J., Lin L., Du W. Y. and Lu J.

Jilin Univ, Natl Lab Enzyme Engn, Changchun 130023, Peoples R China

Available online 30 April 2002.

Abstract

Enzymatic generation of mutant libraries for random mutagenesis of aspartase gene from *E. coli* J₂ was made. A mutant enzyme with 4-fold increase in aspartase activity was found. It is stable at pH 7.5-9.0 (wild-type : pH 7.0-8.0); heat stability and α -helicity are higher than those of the wild-type. By using site directed mutagenesis, the aspartase was activated by replacement of Lys-126 with an arginie residue. The mutation produced functional alterations without appreciable structure changes. The optimum pH for the mutant enzyme is 8.5. The stable pH range is 7.0-9.0. Heat stability is higher than that of the wild-type one; Activity of the mutant enzyme is about 5-fold as much as that of wild-type one.

The Journal of Chemical Physics

Bridges a gap between journals of physics and journals of chemistry.

[[JCP Home](#)] [All Online Issues: [Browse](#) | [Search](#)] [[Article Purchases](#)]
[SPIN Database: [Browse](#) | [Search](#)] [[Forthcoming Abstracts](#)] [[HELP](#)] [[EXIT](#)]

Article Collection: [View Collection](#) [Help](#) (Click on the to add an article.)

[[Previous](#) / [Next](#) Abstract | [Issue Table of Contents](#) | [Bottom of Page](#)]

The Journal of Chemical Physics -- November 8, 2001 -- Volume 115, Issue 18 pp. 8274-8278

Full Text: [[HTML](#) [Sectioned HTML](#) [PDF](#) (58 kB) [GZipped PS](#)] [Order](#)

Inter-basin dynamics on multidimensional potential surfaces. I. Escape rates on complex basin surfaces

Florin Despa and R. Stephen Berry

Department of Chemistry, The University of Chicago, Chicago, Illinois 60637

(Received 23 March 2001; accepted 17 August 2001)

In this report, we present a general prescription for computing the escape rate of the system from a basin with full consideration of the topographical fingerprint of that basin. The method is based on a solution of the reduced Fokker-Planck equation and built up to allow the separation of the inter-basin dynamics from that of the intra-basin motion. The main result is that when local well populations thermalize within a basin, local minima, especially those of higher energy, enhance the escape rate from the basin. Also, numerical analyses lead to the inference that kinetic traps of "wrong" structures are distinctive topographical patterns which may produce kinetic properties similar to those of the primary basin, i.e., that containing the global minimum, but lie in other basins. ©2001 American Institute of Physics.

DOI: 10.1063/1.1409955

ISSN: 0021-9991

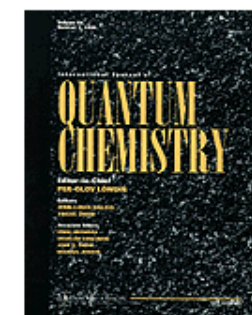
[Additional Information](#)

Full Text: [[HTML](#) [Sectioned HTML](#) [PDF](#) (58 kB) [GZipped PS](#)] [Order](#)

References

[Citation links](#) [e.g., [Phys. Rev. D 40, 2172 \(1989\)](#)] go to online journal abstracts. Other links (see [Reference Information](#)) are available with your current login. Navigation of links may be more efficient using a [second browser window](#).

1. R. S. Berry and R. E. Kunz, [Phys. Rev. Lett. 74, 3951 \(1995\)](#); [[MEDLINE](#)] [[ChemPort](#)]
R. E. Kunz and R. S. Berry, [J. Chem. Phys. 103, 1904 \(1995\)](#); [[ChemPort](#)]
K. D. Ball, R. S. Berry, R. E. Kunz, F.-Y. Li, A. Proykova, and D. J. Wales, [Science 271, 963 \(1996\)](#). [[INSPEC](#)] [[ChemPort](#)]
2. O. M. Becker and M. Karplus, [J. Chem. Phys. 106, 1495 \(1997\)](#); [[ChemPort](#)]
3. D. J. Wales, M. A. Miller, and T. Wash, [Nature \(London\) 394, 758 \(1998\)](#); [[ChemPort](#)]
M. A. Miller and D. J. Wales, [J. Chem. Phys. 111, 6610 \(1999\)](#); [[ChemPort](#)]
4. R. S. Berry and R. E. Kunz, [Phys. Rev. Lett. 74, 3951 \(1995\)](#). [[MEDLINE](#)] [[ChemPort](#)]
5. J. D. Bryngelson and P. G. Wolynes, Proc. Natl. Acad. Sci. U.S.A. **84**, 7524 (1987); [[MEDLINE](#)] [[ChemPort](#)]
[J. Phys. Chem. 93](#), 6902 (1989); [[INSPEC](#)] [[ChemPort](#)]
[Biopolymers 30](#), 177 (1990).
6. H. S. Chan and K. A. Dill, [J. Chem. Phys. 100, 9238 \(1994\)](#).
7. N. D. Socci and J. N. Onuchic, [J. Chem. Phys. 101, 1519 \(1994\)](#). [[ChemPort](#)]
8. Y. Levy and O. M. Becker, [J. Chem. Phys. 114, 993 \(2001\)](#).
9. J. P. Rose and R. S. Berry, [J. Chem. Phys. 98, 3246 \(1993\)](#); [[ChemPort](#)]
[ibid. 98, 3262 \(1993\)](#). [[ChemPort](#)]
10. W. Forst, *Theory of Unimolecular Reactions* (Academic, New York, 1973).
11. F. Despa and R. S. Berry, Eur. Phys. J. D (in press).
12. S. A. Adelman, [J. Chem. Phys. 64, 124 \(1976\)](#). [[SPIN](#)] [[ChemPort](#)]
13. R. F. Grote and J. T. Hynes, [J. Chem. Phys. 77, 3736 \(1982\)](#). [[SPIN](#)] [[ChemPort](#)]
14. B. Carmeli and A. Nitzan, [Phys. Rev. Lett. 49, 423 \(1982\)](#);
[J. Chem. Phys. 79, 393 \(1983\)](#); [[SPIN](#)] [[ChemPort](#)]
[Phys. Rev. A 29, 1481 \(1984\)](#); [[ChemPort](#)]
15. R. S. Berry, [Int. J. Quantum Chem. 58, 657 \(1996\)](#); [[INSPEC](#)] [[ChemPort](#)]
16. G. H. Weiss, [Int. J. Chem. Phys. 13, 1 \(1969\)](#); [[ChemPort](#)]
17. T. Komatsuzaki and R. S. Berry, [J. Chem. Phys. 115, 4105 \(2001\)](#).
18. F. Despa and R. S. Berry (unpublished).
19. T. Komatsuzaki and M. Nagaoka, [J. Chem. Phys. 105, 10838 \(1996\)](#); [[ChemPort](#)]
[Chem. Phys. Lett. 265, 91 \(1997\)](#) (ScienceDirect); [[INSPEC](#)] [[ChemPort](#)]
T. Komatsuzaki and R. S. Berry, [J. Chem. Phys. 110, 9160 \(1999\)](#); [[ChemPort](#)]
[J. Mol. Struct. 506, 55 \(2000\)](#);
[Phys. Chem. Chem. Phys. 1, 1387 \(2000\)](#)



Online ISSN: 1097-461X Print ISSN: 0020-7608

**International Journal of Quantum
Chemistry****Volume 58, Issue 6, 1996. Pages: 657-670****Published Online:** 6 Dec 1998

Copyright © 1996 John Wiley & Sons, Inc.

ADD HOT
ARTICLEABSTRACT WITH
REFERENCESPDF
FULL TEXTHTML
FULL TEXT**Properties, Dynamics, and Electronic Structure of Atoms and Molecules****Many-dimensional potential surfaces: What they imply and how to think about them**

R. Stephen Berry*

Department of Chemistry and the James Franck Institute, The University of Chicago, Chicago, Illinois 60637

Abstract

Starting with knowledge of the internal energy of a polyatomic system as a multidimensional function of the coordinates of the component atoms - the effective potential surface, one can explore the topography of this surface to find its stationary points and topology. Clusters are particularly effective vehicles for developing the methods of doing this, although it is essentially as easy to study small molecules as it is clusters, if the corresponding surfaces are already known. If the system is small enough, all the minima, the relevant saddles, and the corresponding reaction paths can be found; if the system is larger, then only statistical sampling methods can be applied. Such explorations can be used as efficient ways to test the physical plausibility of potential surfaces, e.g., to determine whether a surface developed to describe spectra is valid enough globally to be used for scattering studies. With the readily manageable potentials such as that composed of the sum of pairwise Morse interactions, it is now straightforward to explore how the form of the basic pair interactions affects the multidimensional topography of the surface. For systems of many particles, it is beginning to seem feasible to infer from topographical properties of the surface the extent to which a system undergoing cooling is either glass-forming or "focusing," in the sense of going to a single structure or a small set of related structures. © 1996 John Wiley & Sons, Inc.

Received: 22 July 1994; Revised: 8 October 1994; Accepted: 6 May 1995

*Correspondence to: R. Stephen Berry, Department of Chemistry and the James Franck Institute, The University of Chicago, Chicago, Illinois 60637

Funding Agency: NSF

The latest research papers brought to you ahead of print publication by *Nature* AOP. Advance online publication papers are listed below and grouped by their publication date online.

4 April 2002

brief communications

biodiversity

Biodiversity (Communications arising (reply): Suspect evidence of transgenic contamination/Maize transgene results in Mexico are artefacts

DAVID QUIST AND IGNACIO H. CHAPELA

DOI: 10.1038/nature740

| [First paragraph](#) | [Full text](#) | [PDF](#) (59 K) |

Biodiversity (Communications arising): Maize transgene results in Mexico are artefacts

NICK KAPLINSKY, DAVID BRAUN, DAMON LISCH,
ANGELA HAY, SARAH HAKE & MICHAEL FREELING

DOI: 10.1038/nature739

| [First paragraph](#) | [Full text](#) | [PDF](#) (45 K) |

Biodiversity (Communications arising): Suspect evidence of transgenic contamination

MATTHEW METZ AND JOHANNES FÜTTERER

DOI: 10.1038/nature738

| [First paragraph](#) | [Full text](#) | [PDF](#) (202 K) |

Library use of CrossRef/DOIs?

- Libraries should find DOIs in licensed content and databases – easy full text links
- Libraries can retrieve DOIs from publishers or directly from CrossRef *at no cost*
- Libraries can send a DOI and retrieve standardized metadata
- CrossRef and DOIs integrate with OpenURL Link Resolution services
 - Ex Libris' SFX, EBSCO's LinkSource, Endeavor's LinkFinderPlus, etc

DOI Use

- Journal ownership changes are much smoother with DOIs
 - Ownership of DOIs is transferred to new publisher; new publisher updates URLs in the DOI Directory (through CrossRef)
 - Anyone using the DOI will seamlessly go to new journal site.
 - IDEAL to ScienceDirect

free DOI lookup - Microsoft Internet Explorer

Address http://www.crossref.org/02publishers/37guest_query.html

crossref.org

about crossref | info for publishers | info for libraries | info for affiliates | info for researchers | members-only area

info for publishers

- general info for publishers
- fast facts
- demo
- gallery
- membership rules
- free DOI lookup

publisher fees

request membership agreement

deposit and query

- how to get started
- how to deposit
- how to query

local hosting

DOI guidelines

free DOI lookup

.....

If you have bibliographic data for a journal article and wouldlike to find the DOI, please use the form below. The form is a guest queryinterface to the CrossRef system for individual DOI retrieval.

You must supply either author or first page and we recommend using journaltitle instead of ISSN. For a list of journal titles in the CrossRef holdings please visit our browsable journal list.

First Author: ISSN:

Journal Title:

Volume: Issue: Page: Year:

.....

13675435|Journal of Industrial Microbiology & Biotechnology|Noble|29|3|99|2002|full_text|555-555|10.1038/sj.jim.7000292

doi:10.1038/sj.jim.7000292

A persistent link for this DOI is <http://dx.doi.org/10.1038/sj.jim.7000292>

Current Stats

- **212 Members** (91 in September 2001, 33 in June 2001)
- **30 Affiliates/8 Agents/83 Libraries**
- **8 million DOIs** (3.7 million DOIs December 2001, 1.3 DOIs June 2000)
- **7600 journals represented** (2700 June 2000)
- **3 million DOI resolutions/month** (600,000 - 900,000 in December 2001)

Current Stats

- Oldest content?
- 1849, The Astronomical Journal
- 15 journals with content from the 1800s
- doi:10.1086/100001

5596
NOV 2 1849
ASTRONOMICAL JOURNAL

THE
ASTRONOMICAL JOURNAL.
No. 1.

VOL. 1.

CAMBRIDGE, NOVEMBER 2, 1849.

NO. 1.

P R E A M B L E .

THE enthusiasm of astronomers and the liberality of friends of science in America have enabled me to commence the *ASTRONOMICAL JOURNAL*, with the full conviction that it will be permanently supported. Of its importance, — its necessity, indeed, — for the proper development of astronomy in our country, there can be but one opinion. Astronomy has already reached a stage of development in America, which entitles it to claim a higher position than has yet been accorded it, and which requires a larger scope for its future growth. The influence which a purely scientific journal, devoted exclusively to astronomy and its kindred departments of inquiry, may exert upon the future progress of the science is very great; and it is, therefore, with diffidence, but without hesitation, that I begin the work.

Such a work ought to support the dignity of a pure science, striving for the extension of the realm of human intellect; it should furnish the means of publication and prompt dissemination of discoveries and researches; and should promote harmony among astronomers, laboring for a common end, — while it furnishes an opportunity for the manly expression of differences of opinion.

DOIs and OpenURL

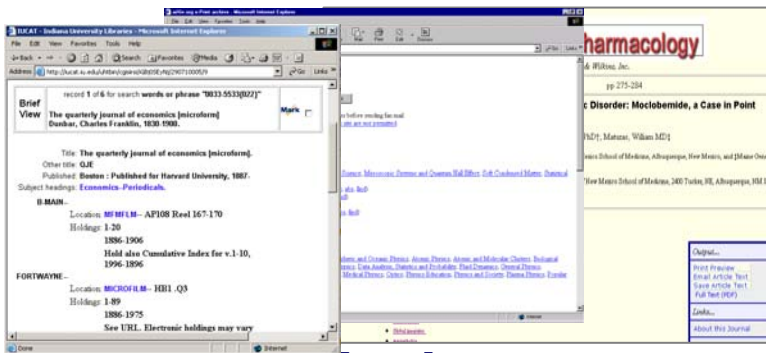
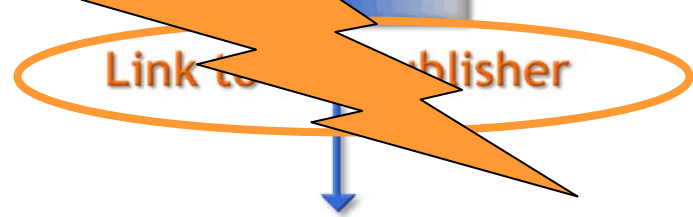
- OpenURL – protocol for metadata in a URL
- OpenURL Framework – system for localized links
- OpenURL is a draft NISO standard
- The DOI system and CrossRef are OpenURL aware and therefore publishers are OpenURL aware through use of CrossRef and DOIs
- DOIs and CrossRef are integrated with localized linking/OpenURL linking systems (SFX, LinkFinderPlus, Z Portal)

CrossRef/DOI Linking



DOI: 10.1034/j.1399-0039.2000.560502.x

DOI Link



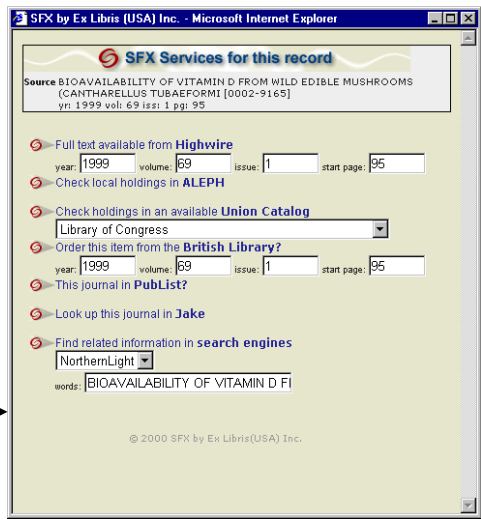
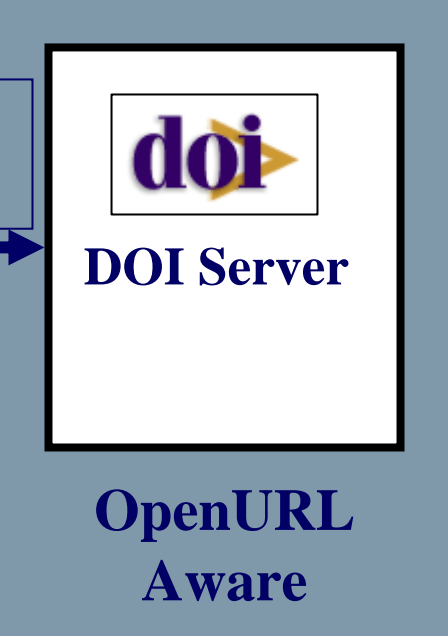
OPAC

Local

Aggregator



OpenURL Linking Complements CrossRef I



<http://dx.doi.org/doi=10.1034/j.1399-0039.2000.560502.x>

<http://www.sfx.edu/?doi=10.1034/j.1399-0039.2000.560502.x>



Metadata
DOI

Ed Pentz, CrossRef

Recent Developments

- Expansion of content types underway
 - conference proceedings and books/reference works
 - Theses and dissertations? Gray Lit? pre-print archives? Datasets?
- Parameter Passing
 - Extra information sent along with a DOI to:
 - (1) track originating journal (2) customize response pages (3) add return buttons, (4) institute special trading rules
- Multiple Resolution
 - Multiple links associated with one DOI
 - Enhanced linking services



IOP | electronic journals

Classical and Quantum Gravity

Journals sitemap:

[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[EJs HOME](#) | [EJs EXTRA](#) | [JOURNAL HOME](#) | [SEARCH](#) | [AUTHORS](#) | [REFEREES](#) | [LIBRARIANS](#) | [USER OPTIONS](#) | [HELP](#)

[This volume](#) ▲ | [Table of contents](#) ▲ | [Abstract](#) ▲ | [Content finder](#)

Existence of non-trivial, vacuum, asymptotically simple spacetimes

P T Chrusciel and E Delay 2002 *Class. Quantum Grav.* **19** L71-L79

Articles citing this article

Institute of Physics Publishing's HyperCite® technology links the current article to articles which cite it. [More information](#) on HyperCite® is available.

Spin-2 fields on Minkowski space near spacelike and null infinity

H Friedrich

Class. Quantum Grav. **20** No 1 (7 January 2003) 101-117 ([IOP article](#))

On 'many-black-hole' vacuum spacetimes

P T Chrusciel and R Mazzeo

Class. Quantum Grav. **20** No 4 (21 February 2003) 729-754 ([IOP article](#))

Early radiative properties of the developments of time-symmetric conformally flat initial data

J A V Kroon

Class. Quantum Grav. **20** No 5 (7 March 2003) L53-L59 ([IOP article](#))

[This volume](#) ▲ | [Table of contents](#) ▲ | [Abstract](#) ▲

CONTENT FINDER

[Full Search](#)

[Help](#)

Author: Vol/Year: Issue: Page/Article No:

[EJs home](#) | [EJs Extra](#) | [Journal home](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#) | [Recommend this journal](#)

[Copyright](#) © Institute of Physics and IOP Publishing Limited 2003.

Use of this service is subject to compliance with the terms and conditions of use. Systematic downloading of files is prohibited.

Conclusion

- CrossRef and DOI help but don't solve all the problems
- Collaboration and standards are necessary to meet user demands
- User expectations keep rising
- Libraries and publishers have a common cause
- A new generation is on the way...

CrossRef

the central source for reference linking

Linking Scholarly Communities Together

<http://www.crossref.org>

Ed Pentz

epentz@crossref.org