TWENTIETH AMENDMENT TO 
ELSEVIER SUBSCRIPTION AGREEMENT

WHEREAS, the parties hereto have previously entered into an agreement dated 5 February 2009 (the "Agreement") as last amended on 10 March 2011 and wish to amend the Agreement as set forth in this amendment ("Amendment").

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth below, and for such other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree to amend the Agreement as of the execution date below as set forth below and on Schedule 1.

Except as specifically amended hereby, all of the existing terms and conditions of the Agreement are hereby ratified. Capitalized terms used herein that are not otherwise defined shall have the meanings ascribed to them in the Agreement. To the extent any terms or conditions of the Agreement conflict with or are inconsistent with this Amendment, the terms of this Amendment shall prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment by their respective, duly authorized representatives as of 28 March 2011.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA o/b/o 
THE CALIFORNIA DIGITAL LIBRARY
(Subscriber)

[Text deleted]

Name: [Text deleted]
Title: [Text deleted]

ELSEVIER B.V.
(Elsevier) [Text deleted]

Name: [Text deleted]
Title: Managing Director, Global Sales & Customer Marketing, Science & Technology

Amendment No.: 1-2153530813
### TWENTIETH AMENDMENT TO ELSEVIER SUBSCRIPTION AGREEMENT

#### Schedule I

**Subscribed Products/Access/Fees**

**UNIVERSITY OF CALIFORNIA, SANTA CRUZ**

Amendment No.: I-2153530813

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<th>Subscribed Products – publisher</th>
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<td>- Encyclopedia of Spectroscopy and Spectrometry</td>
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| TOTAL FEES                                                          |                                             |                             |

**Elsevier Reference Works Additional Terms and Conditions**

The perpetual access granted hereunder for the above reference work(s) is subject to payment of a one-time fee set forth in the fee table above and, after the initial year of the term of this Agreement, an annual access fee in an amount not to exceed five (5%) percent of such one-time fee. The annual access fee will not be charged if the Subscriber maintains an annual subscription on ScienceDirect online, and in the event that all such annual subscriptions are terminated, the Subscriber may, at its option, continue to access such reference work(s) online for an annual access fee based on the number of chapters downloaded from such reference work(s) during the prior twelve (12) months at a rate of $0.081 per download (adjusted annually for inflation and cost increases), in accordance with the usage provisions of the Agreement. Elsevier shall make available for inspection by a duty authorized auditor of the Subscriber, at the Subscriber’s sole expense, the records concerning the calculation of such annual access fee one time per year during regular business hours upon thirty (30) days written notice to Elsevier. In the event that the Subscriber does not pay any reference work(s) annual access fee or maintain any annual subscription on ScienceDirect online, the Subscriber may, at its option, (1) acquire a copy of such reference work(s) in print, if available, at an eighty (80%) percent discount off the then current list price and/or (2) acquire, load and technically format on a server that enables access and use by Authorized Users an electronic copy of such reference work(s) for cost in accordance with the usage provisions of the Agreement. The copy may not contain links and other features and functionality associated with the online version.