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JULY 17, 2014

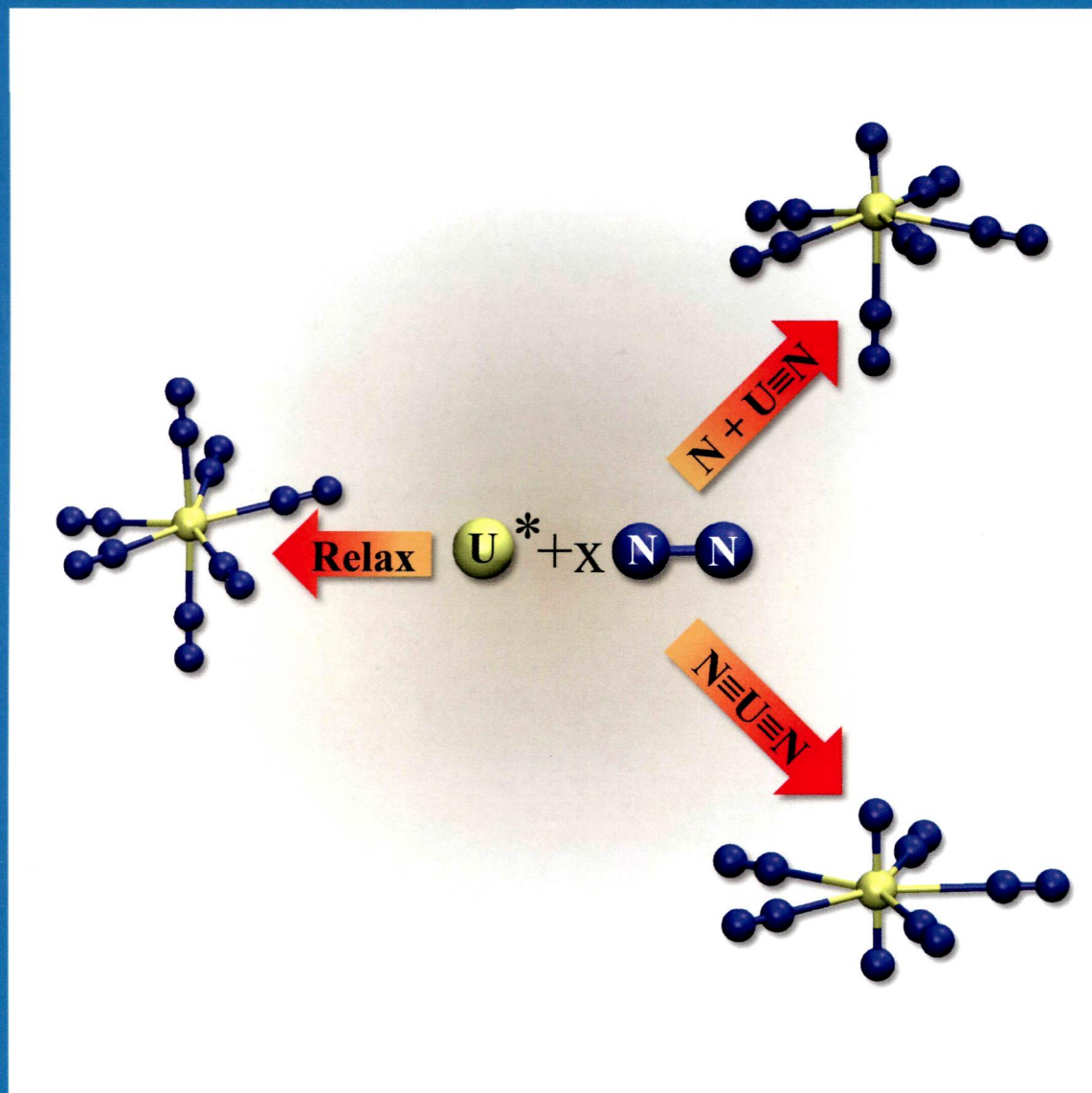
VOLUME 118

NUMBER 28

pubs.acs.org/JPCA

THE JOURNAL OF PHYSICAL CHEMISTRY

A



Excited Uranium Atoms
React with Dinitrogen
to Produce $N\equiv U\equiv N$,
 $U\equiv N$, and Their $N\equiv N$
Complexes
(see page 5A)

ISOLATED MOLECULES, CLUSTERS, RADICALS, AND IONS; ENVIRONMENTAL CHEMISTRY,
GEOCHEMISTRY, AND ASTROCHEMISTRY; THEORY



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ON THE COVER: Laser-ablated excited and mercury arc excited U^* react with $N\equiv N$ molecules to produce the terminal uranium nitrides $N\equiv U\equiv N$ and $U\equiv N$, which form the $UN_2(N_2)_{1,2,3,4,5}$ and $UN(N_2)_{1,2,3,4,5,6}$ complexes stepwise until the heptacoordinated limit is reached. Ground state U atoms coordinate seven dinitrogen molecules with a computed pentagonal bipyramidal structure. The average $U-N$ distance decreases in this series from 2.816 to 2.634 to 2.491 Å. See page S289.

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Kinetics and Dynamics

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[dx.doi.org/10.1021/jp411227r](https://doi.org/10.1021/jp411227r)

Coherent and Homogeneous Intramolecular Charge-Transfer Dynamics of 1-*tert*-Butyl-6-cyano-1,2,3,4-tetrahydroquinoline (NTC6), a Rigid Analogue of DMABN

Myeongkee Park, Donghong Im, Young Ho Rhee,* and Taiha Joo*

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[dx.doi.org/10.1021/jp500724r](https://doi.org/10.1021/jp500724r)

The Reinvestigation of the Kinetics of the Metathesis Reactions $t-C_4H_9^* + HBr (HI) \rightarrow i-C_4H_9 + Br^* (I^*)$ and of the $t-C_4H_9^*$ Free Radical Thermochemistry

N. Leplat and M. J. Rossi*

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[dx.doi.org/10.1021/jp503619d](https://doi.org/10.1021/jp503619d)

Theoretical Study of the Gas-Phase Reactions of NO_3 Radical with a Series of *trans*-2-Unsaturated Aldehydes: From Acrolein to *trans*-2-Octenal

Marie-Thérèse Rayez,* Jean-Claude Rayez, Jamila Kerdouci, and Bénédicte Picquet-Varrault

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[dx.doi.org/10.1021/jp5046063](https://doi.org/10.1021/jp5046063)

Production of B Atoms and BH Radicals from $B_2H_6/He/H_2$ Mixtures Activated on Heated W Wires

Hironobu Umemoto,* Taijiro Kanemitsu, and Akihito Tanaka






Spectroscopy, Photochemistry, and Excited States

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[dx.doi.org/10.1021/jp410964w](https://doi.org/10.1021/jp410964w)

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[dx.doi.org/10.1021/jp5049088](https://doi.org/10.1021/jp5049088)

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Molecular Structure, Quantum Chemistry, and General Theory

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[dx.doi.org/10.1021/jp501637j](https://doi.org/10.1021/jp501637j)

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[dx.doi.org/10.1021/jp503539m](https://doi.org/10.1021/jp503539m)

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Correction to “Hot Band Spectroscopy of the Formyl Cation, H¹²C¹⁶O⁺”
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