

パスワードが違っています。

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Publications 2004~2020

----- 2020 年 -----

實吉尚郎、小野晶

プロオリゴ型核酸医薬を志向した保護基の開発研究
有機合成化学協会誌、**2020**, 78 (9), 886-893. (総説)
<https://doi.org/10.5059/yukigoseikyokaishi.78.886>

Tatsuya Funai, Chizuko Tagawa, Osamu Nakagawa, Shun-ichi Wada, Akira Ono and Hidehito Urata

Enzymatic formation of consecutive thymine-Hg^{II}-thymine base pairs by DNA polymerases
Chem. Commun., **2020**, 56, 12025-12028
DOI: 10.1039/d0cc04423g
<https://doi.org/10.1039/D0CC04423G>

Ryo Yamada, Issei Nomura, Yuki Yamaguchi, Yosuke Matsuda, Yoshikazu Hattori, Hirokazu Tada, Akira Ono, Yoshiyuki Tanaka

Electrical conductance measurement of Hg^{II}-mediated DNA duplex in buffered aqueous solution

Nucleosides, Nucleotides, & Nucleic Acids, **2020**, 39 (8), 1083-1087.

<https://doi.org/10.1080/15257770.2020.1755044>

(2020 Apr 28.)

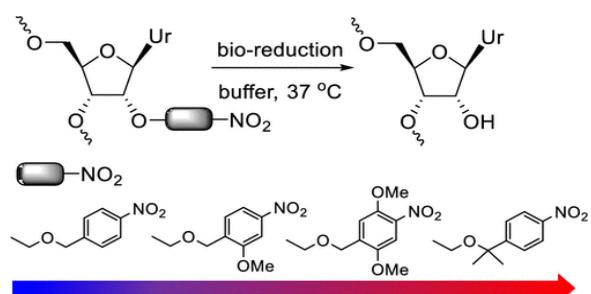
Hisao Saneyoshi, Kodai Nakamura, Kazuma Terasawa, Akira Ono

Development of Bioreduction Labile Protecting Groups for the 2'-Hydroxyl Group of RNA

Organic Letters, **2020**, 22, 15, 6006–6009.

<https://doi.org/10.1021/acs.orglett.0c02086>

(Publication Date: July 14, 2020)



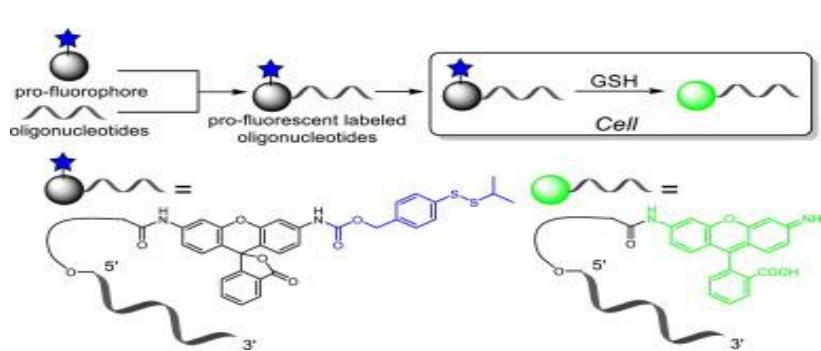
Hisao Saneyoshi, Yuta Yamamoto, Takayuki Ohta, Shoji Akai, Akira Ono

Thiol-responsive pro-fluorophore labeling: Synthesis of a pro-fluorescent labeled oligonucleotide for monitoring cellular uptake

Bioorganic & Medicinal Chemistry Letters, **2020**, 30, 127222.

<https://doi.org/10.1016/j.bmc.2020.127222>

(Volume 30, Issue 13, 1 July)



2020, 127222)

Tatsuya Funai, Megumi Aotani, Risa Kiri, Junko Nakamura, Yuki Miyazaki, Dr. Osamu Nakagawa, Dr. Shun-ichi Wada, Prof. Dr. Hidetaka Torigoe, Prof. Dr. Akira Ono and Prof. Dr. Hidehito Urata

“Silver(I) ion-mediated cytosine-containing base pairs: Metal ion specificity for duplex stabilization and susceptibility toward DNA polymerases”

ChemBioChem, 2020, 21 (4), 517-522

<https://doi.org/10.1002/cbic.201900450> (First published: 28 August 2019)

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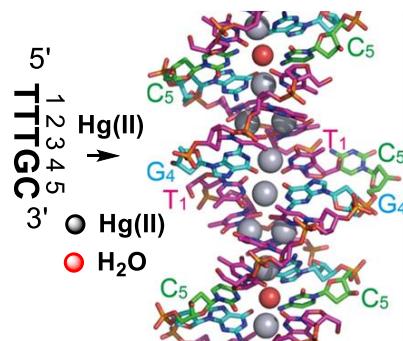
Akira Ono, Hiroki Kanazawa, Hikari Ito, Misato Goto,
Koudai Nakamura, Hisao Saneyoshi, Jiro Kondo

“Novel DNA helical wire containing Hg(II) mediated T:T
and T:G pairs” (Very Important Paper)

Angew. Chem. Int. Ed., 2019, 58, 16835-16838.

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<https://doi.org/10.1002/anie.201910029>

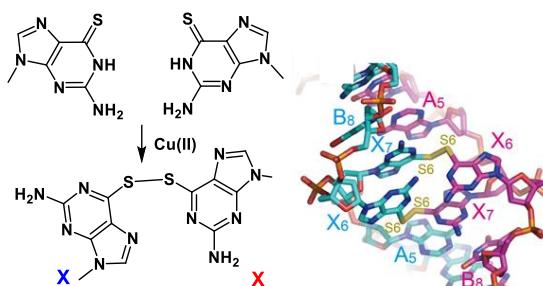


Akira Ono, Takahiro Atsugi, Misato Goto, Hisao Saneyoshi, Takahito Tomori, Kohji Seio,
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RSC Adv., 2019, 9, 22859–22862

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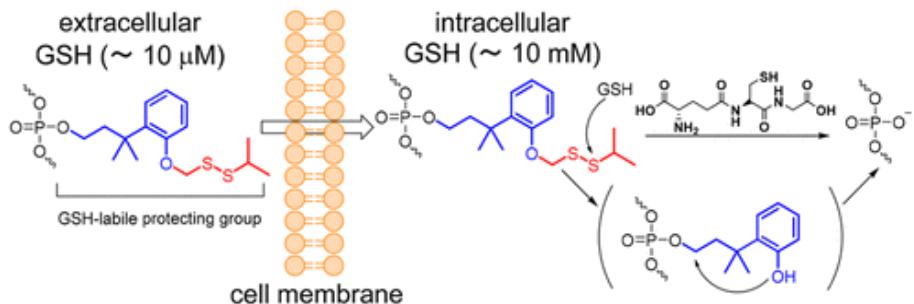


Hisao Saneyoshi, Takayuki Ohta, Yuki Hiyoshi, T. Saneyoshi, Akira Ono

“Design, synthesis and cellular uptake of oligonucleotides modified with glutathione-labile protecting groups”

Org. Lett., 2019, 21, 862–866.

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Yihong Feng,**

Zutao Yu, Kumi Hidaka, Fenyong Liu, Akira Ono, Hiroshi Sugiyama,* and Masayuki Endo
 "Direct Observation of the Double-Stranded DNA Formation through Metal Ion-Mediated Base Pairing in the Nanoscale Structure"
Chem. Eur. J., **2019**, *25*, 1446-1450.
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"Development of Protecting Groups for Prodrug-Type Oligonucleotide Medicines"

Chem. Pharm. Bull., **2018**, *66*, 147-154.
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"Crystal structure of a DNA duplex containing four Ag(I) ions in consecutive dinuclear Ag(I)-mediated base pairs:
 4-thiothymine–2Ag(I)–4-thiothymine"

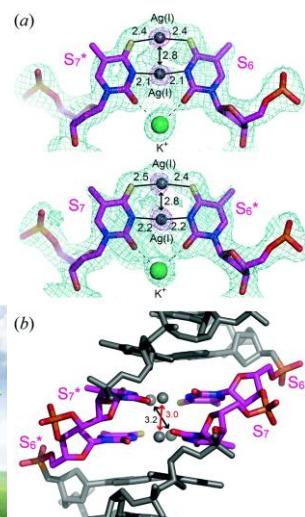
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DOI:10.1039/C7CC0615F

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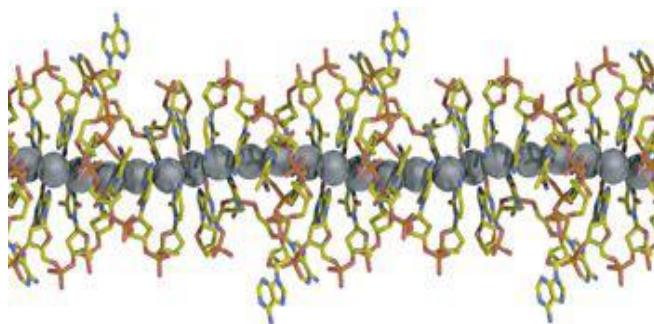


**Jiro Kondo*, Yoshinari Tada, Takenori Dairaku, Yoshikazu Hattori, Hisao Saneyoshi,
 Akira Ono, Yoshiyuki Tanaka**

"A metallo-DNA nanowire with uninterrupted one-dimensional silver array"

Nature Chemistry, **2017**, *9*(10), 956-960. doi:10.1038/nchem.2808.

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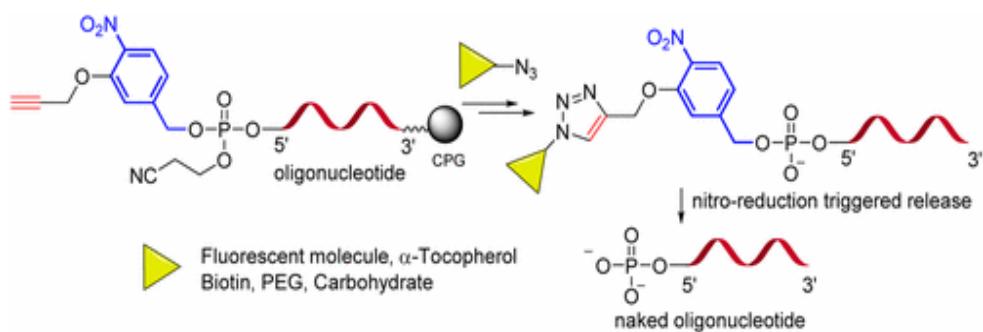
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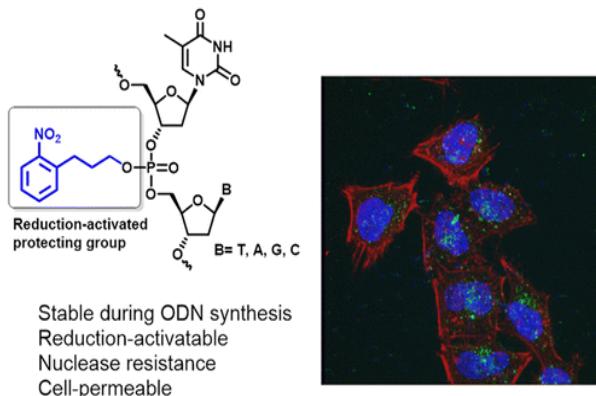
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"Synthesis and Characterization of Cell-Permeable Oligonucleotides Bearing Reduction-Activated Protecting Groups on the Internucleotide Linkages"

Bioconjugate Chem., **2016**, 27, 2149–2156.

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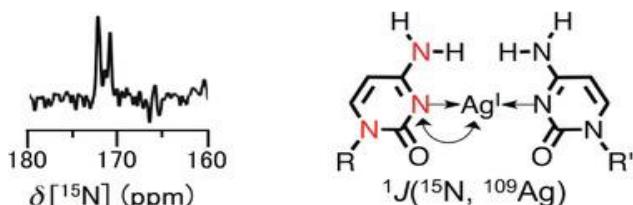
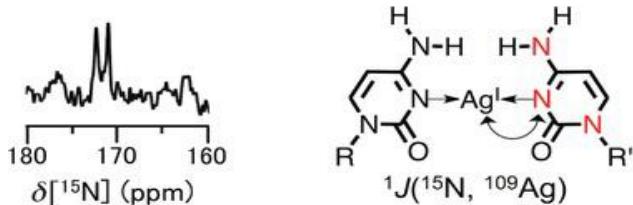
Takenori Dairaku,* Kyoko Furuita, Hajime Sato, Jakub Šebera, Katsuyuki Nakashima, Jiro Kondo, Daichi Yamanaka, Yoshinori Kondo, Itaru Okamoto, Akira Ono, Vladimír Sychrovský,* Chojiro Kojima,* and Yoshiyuki Tanaka*

"Structure Determination of an Ag^I-Mediated Cytosine–Cytosine Base Pair within DNA Duplex in Solution with ¹H/¹⁵N/¹⁰⁹Ag NMR Spectroscopy"

Chem. Eur. J. **2016**, 22, 13028–13031.

DOI: 10.1002/chem.201603048

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"Hg^{II}/Ag^I-mediated base pairs and their NMR spectroscopic studies"

Inorg. Chim. Acta, **2016**, 452, 34–42.

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Hisao Saneyoshi*, Kazuhiko Kondo, Naoki Sagawa, Akira Ono*

"Glutathione-triggered activation of the model of pro-oligonucleotide with benzyl protecting

groups at the internucleotide linkage"
Bioorg. Med. Chem. Lett., **2016**, *26*, 622-625.
doi:10.1016/j.bmcl.2015.11.064
<https://doi.org/10.1016/j.bmcl.2015.11.064>

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"The effect of chemical modification of DNA base on binding of Hg-II and Ag-I in metal-mediated base pairs"
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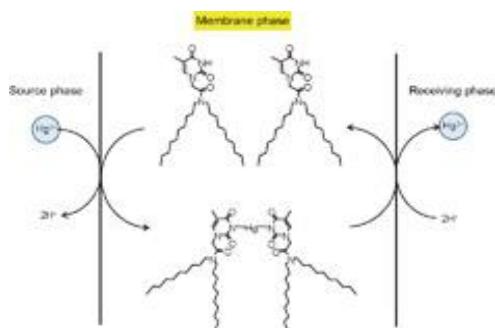
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“Selective Transport of Mercury(II) Ions across Supported Liquid Membrane with Thymine Derivative as Carrier”

Chem. Lett., **2015**, 44, 1732–1734.

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“Exploring a DNA Sequence for the Three-Dimensional Structure Determination of a Silver(I)-Mediated C-C Base Pair in a DNA Duplex By ^1H NMR Spectroscopy”

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DOI:10.1080/15257770.2015.1088160

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Hisao Saneyoshi,* Yuki Hiyoshi, Koichi Iketani, Kazuhiko Kondo, Akira Ono*

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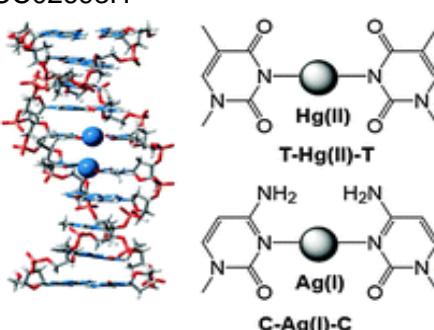
Yoshiyuki Tanaka,* Jiro Kondo, Vladimír Sychrovský, Jakub Šebera, Takenori Dairaku, Hisao Saneyoshi, Hidehito Urata, Hidetaka Torigoe and Akira Ono*

“Structures, physicochemical properties, and applications of T– Hg^{2+} –T, C–Ag^I–C, and other metallo-base-pairs”

Chem. Comm., **2015**, 51(98), 17343-17360. “Feature Article”

DOI: 10.1039/C5CC02693H

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spectroscopic investigations

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applications

Jiro Kondo*, Yoshinari Tada, Takenori Dairaku, Hisao Saneyoshi, Itaru Okamoto, Yoshiyuki Tanaka,

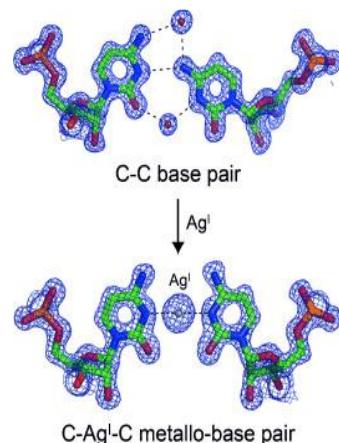
Akira Ono

“High-resolution crystal structure of Ag^I-RNA hybrid duplex containing Watson-Crick-like C–Ag^I–C metallo-base pairs”

Angew. Chem. Int. Ed., **2015**, *54*, Issue 45, 13323–13326.

(10.1002/anie.201507894)

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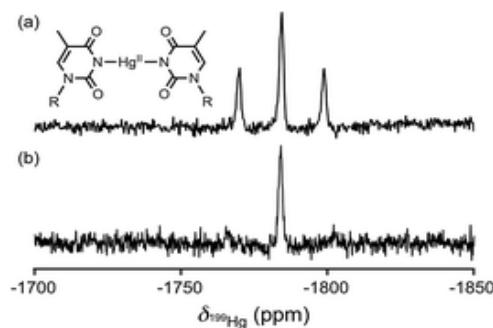
Takenori Dairaku, Kyoko Furuita, Hajime Sato, Jakub Šebera, Daichi Yamanaka, Hiroyuki Otaki, Shoko Kikkawa, Yoshinori Kondo, Ritsuko Katahira, F. Matthias Bickelhaupt, Célia Fonseca Guerra, Akira Ono, Vladimír Sychrovský, Chojiro Kojima, and Yoshiyuki Tanaka

“Direct detection of the mercury–nitrogen bond in the thymine–Hg^{II}–thymine base-pair with ¹⁹⁹Hg NMR spectroscopy”

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DOI: 10.1039/C5CC02423D

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“Regulated Incorporation of Two Different Metal Ions into Programmed Sites in a Duplex by DNA Polymerase Catalyzed Primer Extension” *Angew. Chem. Int. Ed.*, **2014**, 53, 6624-6627.

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“Crystal structure of metallo-DNA duplex containing consecutive Watson-Crick-like T-Hg(II)-T base pairs”

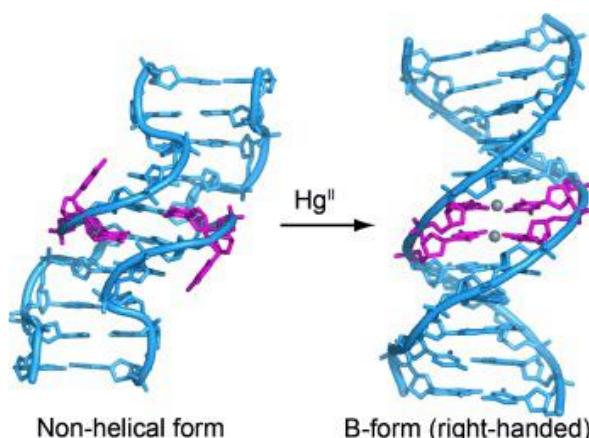
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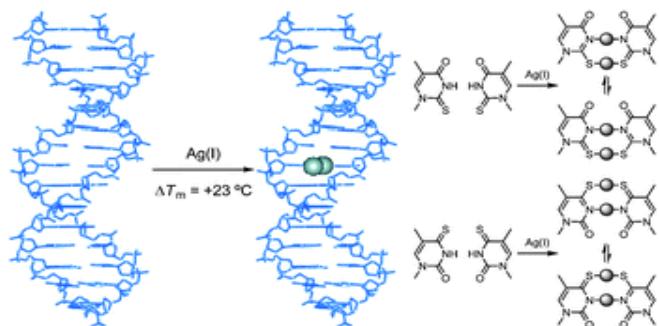
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“Metal ion-binding properties of DNA duplexes containing thiopyrimidine base pairs”
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Nucleic Acids Research, (2012), **40**, 5766-5774. <https://doi.org/10.1093/nar/gks208>

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“Thermodynamic and structural properties of the specific binding between Ag⁺ ion and C:C mismatched base pair in duplex DNA to form C-Ag-C metal-mediated base pair”

Biochimie, (2012) , 94, 2431-2440. <https://doi.org/10.1016/j.biochi.2012.06.024>

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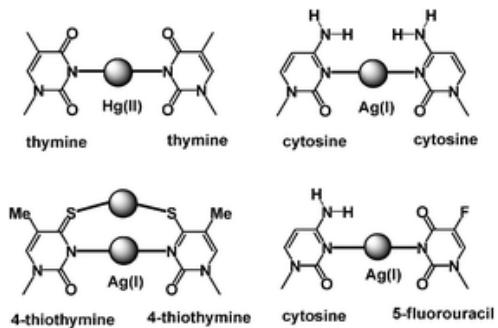
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"Binding of metal ions by pyrimidine base pairs in DNA duplexes" *Chem. Soc. Rev.*, (2011) 40, 5855-5866.

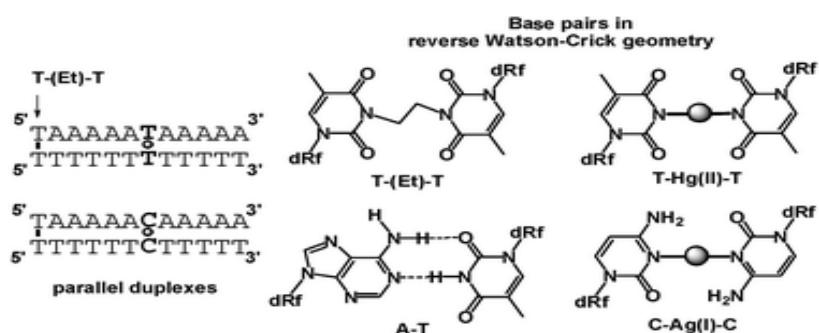
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"Synthesis of covalently linked parallel and antiparallel DNA duplexes containing the metal-mediated base pairs T-Hg(II)-T and C-Ag(I)-C" *Chem. Comm.*, (2011), 47 (5), 1542-1544.

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“Hg(II) Ion Specifically Binds with T:T Mismatched Base Pair in Duplex DNA”

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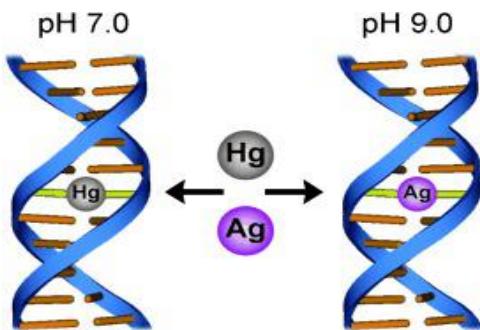
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“Switching Metal Ion Binding Selectivity of Chemically Modified Uracil Pairs in DNA Duplexes Triggered by pH Change”

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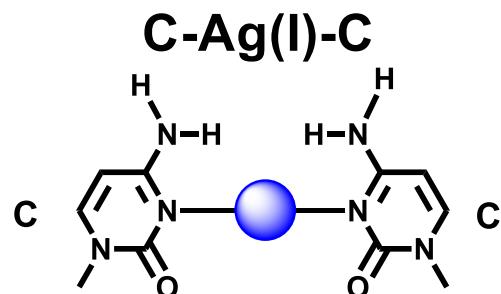
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Akira Ono*, Shiqi Cao, Humika Togashi, Mitsuru Tashiro, Takashi Fujimoto, Tomoya Machinami, Shuji Oda, Yoko Miyake, Itaru Okamoto, and Yoshiyuki Tanaka

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「新規ナノデバイス材料としてのメタロ DNA 分子の構造」

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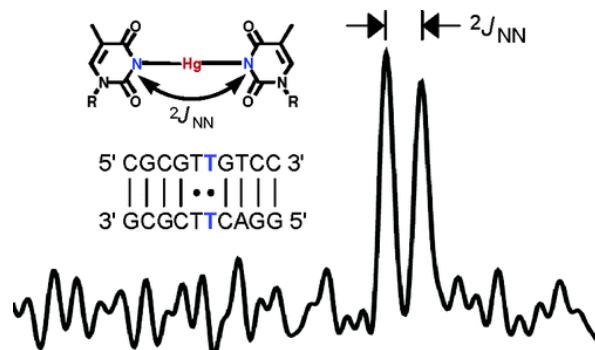
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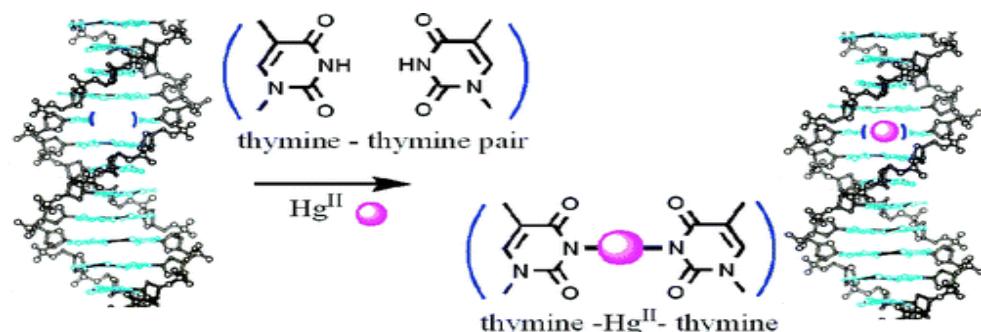
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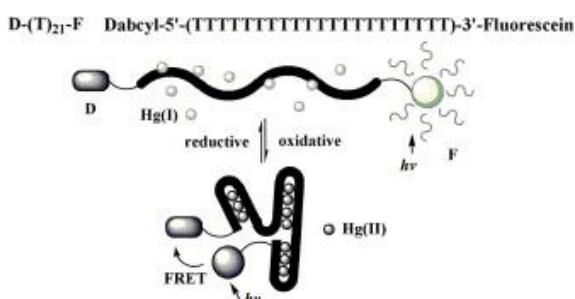
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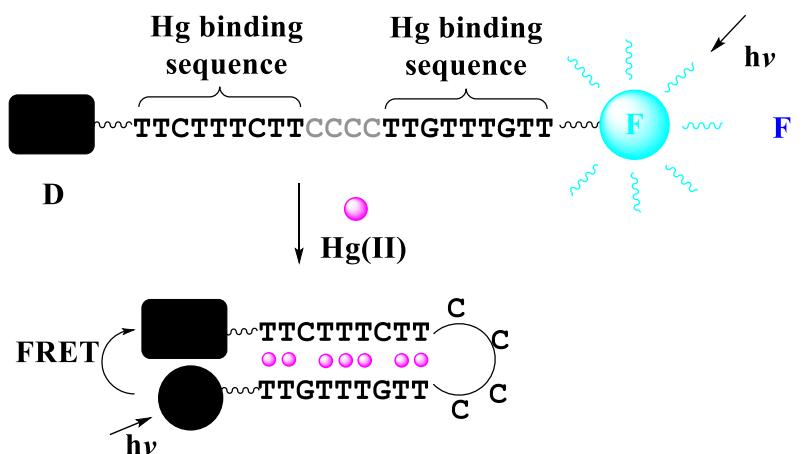
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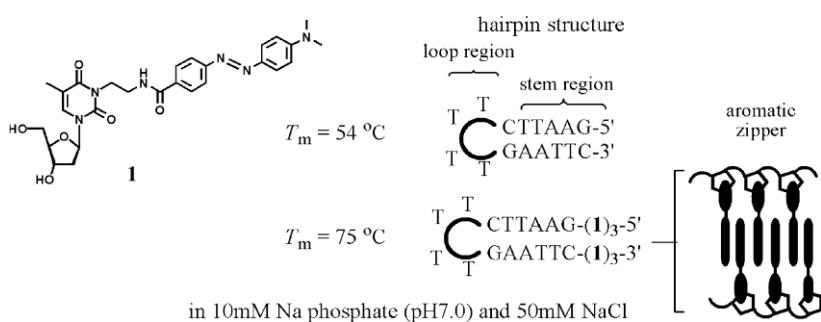


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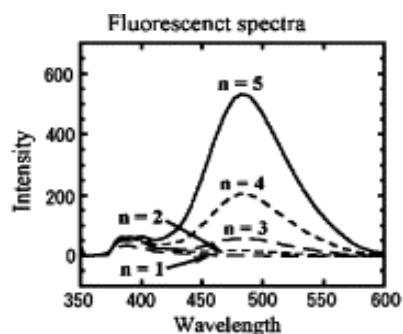
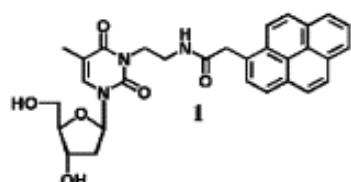
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$$n=0 \approx 5$$

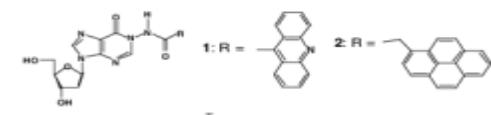


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third strand duplex [5'-CTTGTCTTC-3'	T _m	1.CTTGTCTTC	3'CTTGTCTTC
	5'-GAAGAAGAG-3'	40 °C	GAAGAAGAG	GAAGAAGAG 42
	3'-CTTCCTTC-5'		CTTGTCTTC	CTTGTCTTC

in 10 mM Na cacodylate (pH 5.0), 200 mM NaCl, 20 mM MgCl₂