

# Afaf El-Sagheer

## List of Publications by Year in descending order

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123  
papers

4,965  
citations

116194

36  
h-index

120465

65  
g-index

139  
all docs

139  
docs citations

139  
times ranked

6095  
citing authors

#	ARTICLE	IF	CITATIONS
1	An Investigation into the Resistance of Spherical Nucleic Acids against DNA Enzymatic Degradation. <i>Bioconjugate Chemistry</i> , 2022, 33, 219-225.	1.8	7
2	Deoxyribonucleic Acid Encoded and Size-Defined $\pi$ -Stacking of Perylene Diimides. <i>Journal of the American Chemical Society</i> , 2022, 144, 368-376.	6.6	15
3	A SARS-Cov-2 sensor based on upconversion nanoparticles and graphene oxide. <i>RSC Advances</i> , 2022, 12, 18445-18449.	1.7	11
4	An LNA-amide modification that enhances the cell uptake and activity of phosphorothioate exon-skipping oligonucleotides. <i>Nature Communications</i> , 2022, 13, .	5.8	16
5	A Hitchhiker's Guide to Click-Chemistry with Nucleic Acids. <i>Chemical Reviews</i> , 2021, 121, 7122-7154.	23.0	182
6	High-resolution targeted 3C interrogation of cis-regulatory element organization at genome-wide scale. <i>Nature Communications</i> , 2021, 12, 531.	5.8	32
7	A DNA sensor based on upconversion nanoparticles and two-dimensional dichalcogenide materials. <i>Frontiers of Chemical Science and Engineering</i> , 2021, 15, 935-943.	2.3	9
8	Enrichment of Skeletal Stem Cells from Human Bone Marrow Using Spherical Nucleic Acids. <i>ACS Nano</i> , 2021, 15, 6909-6916.	7.3	9
9	DNA Gold Nanoparticle Motors Demonstrate Processive Motion with Bursts of Speed Up to 50 nm Per Second. <i>ACS Nano</i> , 2021, 15, 8427-8438.	7.3	28
10	Artificial nucleic acid backbones and their applications in therapeutics, synthetic biology and biotechnology. <i>Emerging Topics in Life Sciences</i> , 2021, 5, 691-697.	1.1	5
11	Expanding the chemical functionality of DNA nanomaterials generated by rolling circle amplification. <i>Nucleic Acids Research</i> , 2021, 49, 9042-9052.	6.5	18
12	A New 1,5-Disubstituted Triazole DNA Backbone Mimic with Enhanced Polymerase Compatibility. <i>Journal of the American Chemical Society</i> , 2021, 143, 16293-16301.	6.6	7
13	$\pi$ -Split-and-Click-sgRNA. <i>Methods in Molecular Biology</i> , 2021, 2162, 61-78.	0.4	1
14	Structure-Based Design of Selective Fat Mass and Obesity Associated Protein (FTO) Inhibitors. <i>Journal of Medicinal Chemistry</i> , 2021, 64, 16609-16625.	2.9	9
15	Oxidative DNA Cleavage with Clip-Phenanthroline Triplex-Forming Oligonucleotide Hybrids. <i>ChemBioChem</i> , 2020, 21, 991-1000.	1.3	11
16	Searching for the ideal triazole: Investigating the 1,5-triazole as a charge neutral DNA backbone mimic. <i>Tetrahedron</i> , 2020, 76, 130914.	1.0	7
17	An <sup>111</sup> In-labelled bis-ruthenium(II) dipyrrophenazine theranostic complex: mismatch DNA binding and selective radiotoxicity towards MMR-deficient cancer cells. <i>Chemical Science</i> , 2020, 11, 8936-8944.	3.7	10
18	Development of Gene-Targeted Polypyridyl Triplex-Forming Oligonucleotide Hybrids. <i>ChemBioChem</i> , 2020, 21, 3563-3574.	1.3	14

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19	Squaramides and Ureas: A Flexible Approach to Polymerase-Compatible Nucleic Acid Assembly. <i>Angewandte Chemie</i> , 2020, 132, 11513-11519.	1.6	1
20	Dynamics of the 4D genome during in vivo lineage specification and differentiation. <i>Nature Communications</i> , 2020, 11, 2722.	5.8	79
21	<sup>2</sup> -Alkynyl spin-labelling is a minimally perturbing tool for DNA structural analysis. <i>Nucleic Acids Research</i> , 2020, 48, 2830-2840.	6.5	8
22	Squaramides and Ureas: A Flexible Approach to Polymerase-Compatible Nucleic Acid Assembly. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 11416-11422.	7.2	8
23	Getting DNA and RNA out of the dark with 2CNqA: a bright adenine analogue and interbase FRET donor. <i>Nucleic Acids Research</i> , 2020, 48, 7640-7652.	6.5	19
24	Lighting Up DNA with the Environment-Sensitive Bright Adenine Analogue qAN4. <i>ChemPlusChem</i> , 2020, 85, 319-326.	1.3	3
25	Molecular flexibility of DNA as a key determinant of RAD51 recruitment. <i>EMBO Journal</i> , 2020, 39, e103002.	3.5	13
26	Consecutive 5'- and 3'-amide linkages stabilise antisense oligonucleotides and elicit an efficient RNase H response. <i>Chemical Communications</i> , 2020, 56, 5496-5499.	2.2	11
27	Radiolabeled Oligonucleotides Targeting the RNA Subunit of Telomerase Inhibit Telomerase and Induce DNA Damage in Telomerase-Positive Cancer Cells. <i>Cancer Research</i> , 2019, 79, 4627-4637.	0.4	14
28	Optimised oligonucleotide substrates to assay XPF-ERCC1 nuclease activity for the discovery of DNA repair inhibitors. <i>Chemical Communications</i> , 2019, 55, 11671-11674.	2.2	2
29	Design of thiazole orange oligonucleotide probes for detection of DNA and RNA by fluorescence and duplex melting. <i>Organic and Biomolecular Chemistry</i> , 2019, 17, 5943-5950.	1.5	25
30	Synthesis and biophysical properties of carbamate-locked nucleic acid (LNA) oligonucleotides with potential antisense applications. <i>Organic and Biomolecular Chemistry</i> , 2019, 17, 5341-5348.	1.5	12
31	Light-Induced Reversible DNA Ligation of Gold Nanoparticle Superlattices. <i>ACS Nano</i> , 2019, 13, 5771-5777.	7.3	32
32	An artificial triazole backbone linkage provides a split-and-click strategy to bioactive chemically modified CRISPR sgRNA. <i>Nature Communications</i> , 2019, 10, 1610.	5.8	48
33	DNA-Coated Gold Nanoparticles for the Detection of mRNA in Live <i>Hydra Vulgaris</i> Animals. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 13905-13911.	4.0	22
34	Sensing of Vimentin mRNA in 2D and 3D Models of Wounded Skin Using DNA-Coated Gold Nanoparticles. <i>Small</i> , 2018, 14, e1703489.	5.2	23
35	Spectroscopic and Hydrodynamic Characterisation of DNA-Linked Gold Nanoparticle Dimers in Solution using Two-Photon Photoluminescence. <i>ChemPhysChem</i> , 2018, 19, 827-836.	1.0	6
36	Pentacyclic adenine: a versatile and exceptionally bright fluorescent DNA base analogue. <i>Chemical Science</i> , 2018, 9, 3494-3502.	3.7	34

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37	Gene assembly via one-pot chemical ligation of DNA promoted by DNA nanostructures. <i>Chemical Communications</i> , 2018, 54, 4529-4532.	2.2	10
38	Redox Capacitive Assaying of C-Reactive Protein at a Peptide Supported Aptamer Interface. <i>Analytical Chemistry</i> , 2018, 90, 3005-3008.	3.2	66
39	Multiplexed mRNA Sensing and Combinatorial-Targeted Drug Delivery Using DNA-Gold Nanoparticle Dimers. <i>ACS Nano</i> , 2018, 12, 3333-3340.	7.3	107
40	Searching for avidity by chemical ligation of combinatorially self-assembled DNA-encoded ligand libraries. <i>Organic and Biomolecular Chemistry</i> , 2018, 16, 48-52.	1.5	0
41	Synthesis, oligonucleotide incorporation and fluorescence properties in DNA of a bicyclic thymine analogue. <i>Scientific Reports</i> , 2018, 8, 13970.	1.6	11
42	NMR analyses on N-hydroxymethylated nucleobases – implications for formaldehyde toxicity and nucleic acid demethylases. <i>Organic and Biomolecular Chemistry</i> , 2018, 16, 4021-4032.	1.5	38
43	Synthesis, Affinity for Complementary RNA and DNA, and Enzymatic Stability of Triazole-Linked Locked Nucleic Acids (t-LNAs). <i>ACS Omega</i> , 2018, 3, 6976-6987.	1.6	14
44	Fluorogenic thiazole orange TOTFO probes stabilise parallel DNA triplexes at pH 7 and above. <i>Chemical Science</i> , 2018, 9, 7681-7687.	3.7	25
45	Preparation and characterization of manganese, cobalt and zinc DNA nanoflowers with tuneable morphology, DNA content and size. <i>Nucleic Acids Research</i> , 2018, 46, 7495-7505.	6.5	31
46	Enzyme-free synthesis of cyclic single-stranded DNA constructs containing a single triazole, amide or phosphoramidate backbone linkage and their use as templates for rolling circle amplification and nanoflower formation. <i>Chemical Science</i> , 2018, 9, 8110-8120.	3.7	24
47	Graphene Oxide – Upconversion Nanoparticle Based Portable Sensors for Assessing Nutritional Deficiencies in Crops. <i>ACS Nano</i> , 2018, 12, 6273-6279.	7.3	79
48	Replication Fork Reversal during DNA Interstrand Crosslink Repair Requires CMG Unloading. <i>Cell Reports</i> , 2018, 23, 3419-3428.	2.9	63
49	Molecular Requirements of High-Fidelity Replication-Competent DNA Backbones for Orthogonal Chemical Ligation. <i>Journal of the American Chemical Society</i> , 2017, 139, 1575-1583.	6.6	28
50	5-Formylcytosine does not change the global structure of DNA. <i>Nature Structural and Molecular Biology</i> , 2017, 24, 544-552.	3.6	44
51	Toward Complete Sequence Flexibility of Nucleic Acid Base Analogue FRET. <i>Journal of the American Chemical Society</i> , 2017, 139, 9271-9280.	6.6	44
52	RPA activates the XPF – ERCC 1 endonuclease to initiate processing of DNA interstrand crosslinks. <i>EMBO Journal</i> , 2017, 36, 2047-2060.	3.5	50
53	Graphene Oxide-Upconversion Nanoparticle Based Optical Sensors for Targeted Detection of mRNA Biomarkers Present in Alzheimer's Disease and Prostate Cancer. <i>ACS Sensors</i> , 2017, 2, 52-56.	4.0	107
54	Single tube gene synthesis by phosphoramidate chemical ligation. <i>Chemical Communications</i> , 2017, 53, 10700-10702.	2.2	19

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55	Assembly of a biocompatible triazole-linked gene by one-pot click-DNA ligation. <i>Nature Chemistry</i> , 2017, 9, 1089-1098.	6.6	67
56	Site-selective immobilization of functionalized DNA origami on nanopatterned Teflon AF. <i>Journal of Materials Chemistry C</i> , 2017, 5, 7637-7643.	2.7	7
57	The Sedimentation of Colloidal Nanoparticles in Solution and Its Study Using Quantitative Digital Photography. <i>Particle and Particle Systems Characterization</i> , 2017, 34, 1700095.	1.2	44
58	Locked nucleic acid (LNA) enhances binding affinity of triazole-linked DNA towards RNA. <i>Chemical Communications</i> , 2017, 53, 8910-8913.	2.2	24
59	Instrument-free quantitative gold nanoparticle-based liquid-phase colorimetric assays for use in resource-poor environments. <i>Chemical Communications</i> , 2017, 53, 8407-8410.	2.2	13
60	CRISPRi is not strand-specific at all loci and redefines the transcriptional landscape. <i>ELife</i> , 2017, 6, .	2.8	27
61	An autonomous molecular assembler for programmable chemical synthesis. <i>Nature Chemistry</i> , 2016, 8, 542-548.	6.6	130
62	Electrophilic RNA for Peptidyl-RNA Synthesis and Site-Specific Cross-Linking with tRNA-Binding Enzymes. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 13553-13557.	7.2	11
63	Selective killing of cells triggered by their mRNA signature in the presence of smart nanoparticles. <i>Nanoscale</i> , 2016, 8, 16857-16861.	2.8	20
64	<sup>2</sup> -Alkynynucleotides: A Sequence- and Spin Label-Flexible Strategy for EPR Spectroscopy in DNA. <i>Journal of the American Chemical Society</i> , 2016, 138, 9069-9072.	6.6	34
65	Combination probes with intercalating anchors and proximal fluorophores for DNA and RNA detection. <i>Nucleic Acids Research</i> , 2016, 44, e138-e138.	6.5	20
66	Electrophilic RNA for Peptidyl-RNA Synthesis and Site-Specific Cross-Linking with tRNA-Binding Enzymes. <i>Angewandte Chemie</i> , 2016, 128, 13751-13755.	1.6	8
67	Stable end-sealed DNA as robust nano-rulers for in vivo single-molecule fluorescence. <i>Chemical Science</i> , 2016, 7, 4418-4422.	3.7	8
68	Efficient enzymatic synthesis and dual-colour fluorescent labelling of DNA probes using long chain azido-dUTP and BCN dyes. <i>Nucleic Acids Research</i> , 2016, 44, e79-e79.	6.5	36
69	New technologies for DNA analysis – a review of the READNA Project. <i>New Biotechnology</i> , 2016, 33, 311-330.	2.4	10
70	A triazole linkage that mimics the DNA phosphodiester group in living systems. <i>Quarterly Reviews of Biophysics</i> , 2015, 48, 429-436.	2.4	11
71	Real-Time Transcription Initiation by E. coli RNA Polymerase in vitro and in vivo. <i>Biophysical Journal</i> , 2015, 108, 115a.	0.2	0
72	Azide and trans-cyclooctene dUTPs: incorporation into DNA probes and fluorescent click-labelling. <i>Analyst</i> , The, 2015, 140, 2671-2678.	1.7	47

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73	Reversible Ligation of Programmed DNA-Gold Nanoparticle Assemblies. <i>Journal of the American Chemical Society</i> , 2015, 137, 9242-9245.	6.6	34
74	Programming the assembly of gold nanoparticles on graphene oxide sheets using DNA. <i>Journal of Materials Chemistry C</i> , 2015, 3, 9379-9384.	2.7	16
75	Force-induced melting of DNA—evidence for peeling and internal melting from force spectra on short synthetic duplex sequences. <i>Nucleic Acids Research</i> , 2014, 42, 8083-8091.	6.5	22
76	Structural insights into how 5-hydroxymethylation influences transcription factor binding. <i>Chemical Communications</i> , 2014, 50, 1794-1796.	2.2	71
77	Combined nucleobase and backbone modifications enhance DNA duplex stability and preserve biocompatibility. <i>Chemical Science</i> , 2014, 5, 253-259.	3.7	31
78	Reverse transcription through a bulky triazole linkage in RNA: implications for RNA sequencing. <i>Chemical Communications</i> , 2014, 50, 7597-7600.	2.2	11
79	Transcription of Click-Linked DNA in Human Cells. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 2362-2365.	7.2	64
80	Enzymatic incorporation and fluorescent labelling of cyclooctyne-modified deoxyuridine triphosphates in DNA. <i>Bioorganic and Medicinal Chemistry</i> , 2014, 22, 4384-4390.	1.4	30
81	Innen-Äcktitelbild: Transcription of Click-Linked DNA in Human Cells ( <i>Angew. Chem.</i> 9/2014). <i>Angewandte Chemie</i> , 2014, 126, 2543-2543.	1.6	1
82	Kinetics of Diffusion-Mediated DNA Hybridization in Lipid Monolayer Films Determined by Single-Molecule Fluorescence Spectroscopy. <i>ACS Nano</i> , 2013, 7, 308-315.	7.3	10
83	Copper-free click chemistry as an emerging tool for the programmed ligation of DNA-functionalised gold nanoparticles. <i>Nanoscale</i> , 2013, 5, 7209.	2.8	57
84	Tension Induces a Base-Paired Overstretched DNA Conformation. <i>Biophysical Journal</i> , 2013, 104, 165a.	0.2	0
85	The Structure of FemX <sub>Wv</sub> in Complex with a Peptidyl-RNA Conjugate: Mechanism of Aminoacyl Transfer from Ala-tRNA <sup>Ala</sup> to Peptidoglycan Precursors. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 7278-7281.	7.2	36
86	Solid phase click ligation for the synthesis of very long oligonucleotides. <i>Chemical Communications</i> , 2013, 49, 6959.	2.2	33
87	Two-Step Synthesis of a 5- <sup>2</sup> -Azidothymidine Building Block for the Assembly of Oligonucleotides for Triazole-Forming Ligations. <i>Synlett</i> , 2012, 23, 2923-2926.	1.0	2
88	Tension induces a base-paired overstretched DNA conformation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 15179-15184.	3.3	78
89	Assessing the biocompatibility of click-linked DNA in <i>Escherichia coli</i> . <i>Nucleic Acids Research</i> , 2012, 40, 10567-10575.	6.5	46
90	Click Nucleic Acid Ligation: Applications in Biology and Nanotechnology. <i>Accounts of Chemical Research</i> , 2012, 45, 1258-1267.	7.6	186

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91	Fast and efficient DNA crosslinking and multiple orthogonal labelling by copper-free click chemistry. <i>Chemical Communications</i> , 2012, 48, 11184.	2.2	59
92	Click Chemistry – a Versatile Method for Nucleic Acid Labelling, Cyclisation and Ligation. <i>RSC Biomolecular Sciences</i> , 2012, , 119-139.	0.4	2
93	Hydroxylation of methylated CpG dinucleotides reverses stabilisation of DNA duplexes by cytosine 5-methylation. <i>Chemical Communications</i> , 2011, 47, 5325.	2.2	65
94	Fast copper-free click DNA ligation by the ring-strain promoted alkyne-azide cycloaddition reaction. <i>Chemical Communications</i> , 2011, 47, 6257.	2.2	96
95	Rapid chemical ligation of oligonucleotides by the Diels–Alder reaction. <i>Organic and Biomolecular Chemistry</i> , 2011, 9, 232-235.	1.5	30
96	Efficient RNA synthesis by in vitro transcription of a triazole-modified DNA template. <i>Chemical Communications</i> , 2011, 47, 12057.	2.2	51
97	Structure and Dynamics of Triazole-Linked DNA: Biocompatibility Explained. <i>Chemistry - A European Journal</i> , 2011, 17, 14714-14717.	1.7	43
98	Improved synthesis of 5-hydroxymethyl-2'-deoxycytidine phosphoramidite using a 2'-deoxyuridine to 2'-deoxycytidine conversion without temporary protecting groups. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2011, 21, 1181-1184.	1.0	28
99	Biocompatible artificial DNA linker that is read through by DNA polymerases and is functional in <i>Escherichia coli</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 11338-11343.	3.3	132
100	Characterization of photophysical and base-mimicking properties of a novel fluorescent adenine analogue in DNA. <i>Nucleic Acids Research</i> , 2011, 39, 4513-4524.	6.5	43
101	New strategy for the synthesis of chemically modified RNA constructs exemplified by hairpin and hammerhead ribozymes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 15329-15334.	3.3	119
102	Factors influencing hairpin oligonucleotide cyclization by the uncatalyzed alkyne-azide cycloaddition (AAC) reaction. <i>Pure and Applied Chemistry</i> , 2010, 82, 1599-1607.	0.9	9
103	Fixation of Self-Assembled DNA Nanostructures by Simultaneous Multicenter Click Chemistry. <i>Biophysical Journal</i> , 2010, 98, 658a.	0.2	0
104	The First All-Nucleobase Analog FRET Pair. <i>Biophysical Journal</i> , 2010, 98, 582a.	0.2	0
105	Click chemistry with DNA. <i>Chemical Society Reviews</i> , 2010, 39, 1388.	18.7	656
106	Towards Dark Quencher Based Real Time DNA Sequencing. <i>Biophysical Journal</i> , 2010, 98, 611a-612a.	0.2	0
107	Functionalized Nanostructures: Redox-Active Porphyrin Anchors for Supramolecular DNA Assemblies. <i>ACS Nano</i> , 2010, 4, 5037-5046.	7.3	45
108	A new fixation strategy for addressable nano-network building blocks. <i>Chemical Communications</i> , 2010, 46, 3714.	2.2	30

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109	Very Stable End-Sealed Double Stranded DNA by Click Chemistry. <i>Nucleosides, Nucleotides and Nucleic Acids</i> , 2009, 28, 315-323.	0.4	4
110	Synthesis and Polymerase Chain Reaction Amplification of DNA Strands Containing an Unnatural Triazole Linkage. <i>Journal of the American Chemical Society</i> , 2009, 131, 3958-3964.	6.6	100
111	Nucleic Acid Base Analog FRET-Pair Facilitating Detailed Structural Measurements in Nucleic Acid Containing Systems. <i>Journal of the American Chemical Society</i> , 2009, 131, 4288-4293.	6.6	164
112	Synthesis, Serum Stability and Cell Uptake of Cyclic and Hairpin Decoy Oligonucleotides for TCF/LEF and GLI Transcription Factors. <i>International Journal of Peptide Research and Therapeutics</i> , 2008, 14, 367-372.	0.9	13
113	A Very Stable Cyclic DNA Miniduplex with Just Two Base Pairs. <i>ChemBioChem</i> , 2008, 9, 50-52.	1.3	61
114	Rapid and Efficient DNA Strand Cross-Linking by Click Chemistry. <i>ChemBioChem</i> , 2008, 9, 1280-1285.	1.3	83
115	Synthesis of Alkyne- and Azide-Modified Oligonucleotides and Their Cyclization by the CuAAC (Click) Reaction. <i>Current Protocols in Nucleic Acid Chemistry</i> , 2008, 35, Unit 4.33.	0.5	3
116	DNA Polymorphism as an Origin of Adenine-Thymine Tract Length-Dependent Threading Intercalation Rate. <i>Journal of the American Chemical Society</i> , 2008, 130, 14651-14658.	6.6	34
117	Template-Directed Oligonucleotide Strand Ligation, Covalent Intramolecular DNA Circularization and Catenation Using Click Chemistry. <i>Journal of the American Chemical Society</i> , 2007, 129, 6859-6864.	6.6	248
118	Reaction of Alkyl and Aryl Grignard Reagents with Trifluoroacetyldihydropyrans and Other Cyclic $\beta^2$ -Alkoxy- $\beta^2$ -unsaturated Trifluoromethylketones. <i>Tetrahedron</i> , 2000, 56, 10039-10055.	1.0	18
119	Reaction of Benzyl Grignard Reagents with Trifluoroacetyldihydropyrans and Other Cyclic $\beta^2$ -Alkoxy- $\beta^2$ -Unsaturated Trifluoromethylketones. <i>Tetrahedron</i> , 2000, 56, 10057-10066.	1.0	15
120	The importance of A-strain in the stereochemical control of ring opening of tetrahydropyrans. <i>Tetrahedron Letters</i> , 2000, 41, 7387-7390.	0.7	5
121	Synthesis of Trifluoromethylnaphthalenes. <i>Tetrahedron</i> , 2000, 56, 10067-10074.	1.0	11
122	A synthesis of trifluoromethyl-substituted naphthalenes. <i>Tetrahedron Letters</i> , 2000, 41, 7383-7386.	0.7	14
123	Covalently attached intercalators restore duplex stability and splice-switching activity to triazole-modified oligonucleotides. <i>RSC Chemical Biology</i> , 0, , .	2.0	3