

Supplementary Materials for **Selective control of reconfigurable chiral plasmonic metamolecules**

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This PDF file includes:

- fig. S1. Scaffold/staple layout of the DNA origami template.
- fig. S2. Schematics of the DNA origami template.
- fig. S3. TEM images of the DNA origami templates after thermal annealing and agarose gel purification.
- fig. S4. Additional TEM images of the DNA origami-based metamolecules.
- fig. S5. CD response of the plasmonic metamolecules at different pH values with pH-insensitive locks.
- table S1. Staple sequences of the DNA origami template.
- table S2. Sequences of the pH-sensitive DNA locks.
- table S3. Thermal annealing temperatures and times.

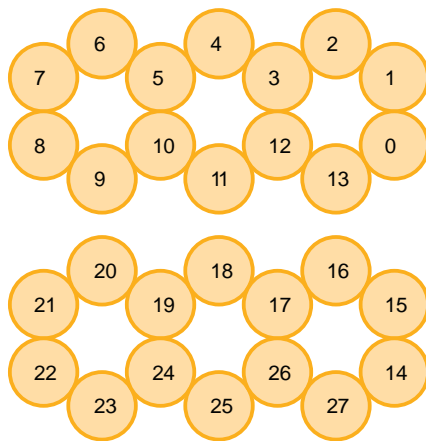
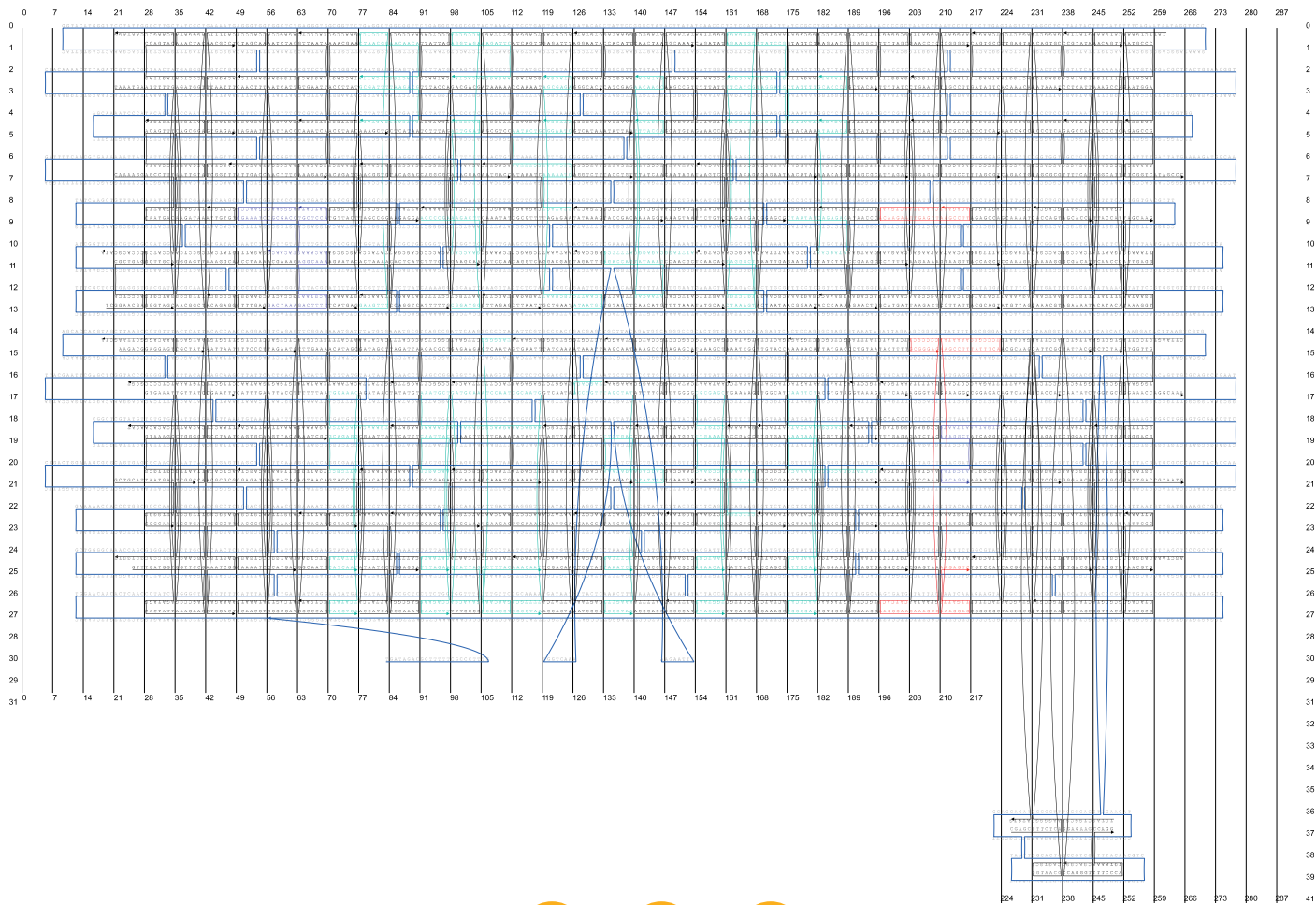


fig. S1. Scaffold/staple layout of the DNA origami template.

table S1. Staple sequences of the DNA origami template.

Staples	Length (nt)		Start	End
AACGAGCGTCTTTCGCCATATTTGTTTAGAAGCGCATTAGAC	42	"core" staple	4[202]	7[202]
AGGTTTAACGTCGACACCGCCTGGAAGGGTTAGAAGATTTTC	42	"core" staple	22[62]	22[63]
TACTTTTTCTAATCTATTTACAGAAAGGTGCCTGAAACAGTGAGGCCAC	49	"core" staple	15[196]	25[202]
AAGAAGTCCAAAATTAGAGAGCTTAATT	28	"core" staple	4[118]	13[118]
TTTGAGATGTTTTATAATCGCATTTCGC	28	"core" staple	19[196]	23[195]
AATTTTAATTTTCAGCAAGGCAAAGAAT	28	"core" staple	26[146]	16[133]
TCGACAAATTATCAGTCAATATAGGTCTGAGAGACGTGAATTACGAATA	49	"core" staple	25[119]	14[112]
ACTCGTCAATCGGAGAGTAACCTCGTATGAGCACTGGAAGGTAACCTCA	49	"core" staple	14[132]	22[126]
CTCATAATGTTTAGACACCCCCAGCGATAAGAGGA	35	"core" staple	5[84]	9[90]
CATAACCTTATTACCCCTCAGAACCGCCCCAGGTCATTTTTG	42	"core" staple	2[97]	13[97]
CCGGCTTAGACGCTCGGCTGACGCATTTCCCAAATGAGCGGATGGAGGA	49	"core" staple	16[97]	25[90]
TGTCCATCACGCAAATTAACTTTGTAGACAATAGGAACCCGTCGGCAAAT	49	"core" staple	25[217]	22[224]
AATTAATTTTCCCTCTCCTGGTTGGTGTGTGGACT	35	"core" staple	15[42]	27[48]
AGGGAGCGCCATCTAAAGCCTCAGAGCA	28	"core" staple	27[140]	15[153]
GTCAATACTAACTTTTTCAAATTAACACGCAAATGAAAAATC	42	"core" staple	24[104]	21[118]
TATTCTGAAATAAAGGTGGAATAAATTGAGGTTAAAGGTAGCAAG	45	"core" staple	0[261]	9[258]
TATACTTAGATACATTTTCATCACAGAGGTCACCTTGCAGACA	42	"core" staple	18[139]	21[139]
GGCAATTTTCTGAATAATGGCAGTTACAAAAATTAATTACAT	42	"core" staple	25[63]	18[49]
GAGATTTACCTAAAACGAAAGGCCACTAAATCATTTTGGGAAGAATTCC	49	"core" staple	10[55]	2[49]
CCAAAGAAGAAAATACAAACAACTGGTAATAAGTTCAGTGCCTCAAGAG	49	"core" staple	11[224]	0[217]
GTGGTTGTGGGAAGGGAAACCAGGCAAA	28	"core" staple	15[252]	17[265]
CATACAGTTTGGGGAGTATCATAATGGTGAACCACTGAATGG	42	"core" staple	16[153]	21[153]
AACCGCCGAGGCAGGTCAGACGATTGACCACGCCACCCTCAG	42	"core" staple	5[224]	5[223]
GTTTGATGGTGGTTCCGTAGCCCGTGTATCCTGTAAATCTCCCCGGGT	49	"core" staple	25[25]	16[24]
AACGGCTAGGGATAAACTACAACGCCT	28	"core" staple	13[35]	1[48]
GGAGGTTACCCTCAACCACCGTAGCGGTTTTTCATATCGATAAGCACCA	49	"core" staple	4[237]	9[244]
CGAGTAAGTAATAAAGGGTGATATTTTAAATGCAA	35	"core" staple	25[203]	16[196]
AGAATCCAAATCAGTTGTAAACGTTAATCCCCAAAACTAGCATGTCAA	49	"core" staple	24[216]	20[196]
ACCATCACACATAAGATAGCTTAGATTAAGGTTGG	35	"core" staple	27[77]	16[84]

GAGGTTTTTTTAGCGCGGGTTTTGCTCAGAACTG	35	"core" staple	2[202]	13[195]
AATATCAAACCCTCTTGAAAGGAATTGAAACAACCTAGTTAATTTTCGCA	49	"core" staple	22[125]	18[119]
GAAACACCAGAACGAGTAGTAGTGAGAA	28	"core" staple	4[62]	5[48]
AGCTAAACAGGAGGAATTCGCATTAAT	28	"core" staple	24[265]	22[252]
AATTGCTGACGACGATAAAAAATTTGCCAAGCGTCCACAGTTC	42	"core" staple	12[104]	6[105]
CTTGATATTCAACCTGAGAGTCTGGACCAAGGGATTTGACGA	42	"core" staple	18[244]	25[244]
AAAGAAATTACATCGGGAGACGCTGAGACATAAAACAGAAAT	42	"core" staple	22[83]	22[84]
AAGATTAGTATTCTGGCGGATAAGTGCCACTAATAACGGAAT	42	"core" staple	2[181]	13[181]
TTTGCCCGAACGCCCTGAAATGGATTTACTAAATTTATGCGT	42	"core" staple	25[140]	18[140]
AAGGATTCCTTATTGTCAGATAGCCGAAGTGAATCCTTGCGG	42	"core" staple	0[216]	2[203]
CCTCATTTTGTACAGAAAATACATACACATGAAAAACAGTT	42	"core" staple	3[238]	1[251]
GCATAGTATCAGTTTCAGGAGGTTTAGTCTTAGAGTACCTTT	42	"core" staple	2[118]	12[105]
ATTTAAACTCATTTTTTAACCAGGAACGCATTGCCGTTCTAG	42	"core" staple	22[223]	18[224]
CGTAATCAGTAGCGAGAGCCAGCAAAATTTGAGCCATTTGGGACCAGCG	49	"core" staple	8[230]	11[223]
ATTAACGAGGCGCAAACGGTGATCAAGA	28	"core" staple	8[90]	6[77]
GAGGCTGCAAACGTAATCAATCAAAAGGCACCGACCACCAGTGCAGCAC	49	"core" staple	0[237]	8[231]
AAACAGGACGTCAAAAATGAATTACAAATAGCCATATTTAACGGAGCG	49	"core" staple	7[182]	9[174]
AATACGTGGCACTGTATCTAAAAATTTACATTGGCGCGTAAG	42	"core" staple	22[146]	22[147]
TTAACGATTGCCTTGATATTCTCATATGACGCAGT	35	"core" staple	2[216]	13[223]
TTCGAGGAATTGTAAGGAATTGCGAATAACAGTTTACCATCGGCTTGCA	49	"core" staple	8[41]	11[34]
AAGACGGAGGAGTAAACAGGGCTTAAGCTA	30	"core" staple	15[22]	14[18]
GAGGAAACGCAAGGTAATTGAGAATCGCTATCTTAGGAAACC	42	"core" staple	12[181]	12[182]
ACAGACATTAATTTCAACTTTCGAAGGCCTTTGAG	35	"core" staple	2[48]	13[55]
ATGTTAGAGACTCCTTGAGTAACAGTGCGGAGTGTAATAAAT	42	"core" staple	13[224]	3[237]
CAATATCCTATGGTGTGTAGCGGTCACGGTGCTGACCTCTAA	42	"core" staple	17[238]	15[251]
AATAAATTCGAGCTCAGGTCAGGACGAGTAGATTTAGCCAGT	42	"core" staple	10[125]	10[126]
CGGAGACTACTTCTCGGGCGCTAGGGCGGACAATGACGCAAGATGTG	47	"core" staple	17[217]	36[226]
TATTACCGCCTTGCTGAAAAGAACATCC	28	"core" staple	25[161]	16[161]
TTTGGGGCTTGAATGAGAAGAGTCAATATACCTTTTTAACCT	42	"core" staple	27[98]	16[98]
CATTTATATTATTTGCACGGTTGGCAA	28	"core" staple	24[90]	23[104]
ACTAATCGGTTTATTGACCAACTTTGAACCGGATAAGGAACA	42	"core" staple	6[46]	6[47]
TGATTGCAGTAACAGTACCTTTTTCGTACCTACCA	35	"core" staple	20[69]	23[76]
GCACGTAGCGCGTATGGTGCCGGCGATCGGTGCGGGCCTCTATCACCAT	49	"core" staple	25[245]	17[237]

ACCAGAACCGAAGCCAATGAAATAACCCACCCTGAACAAAGT	42	"core" staple	12[195]	8[182]
GGGAACAAGTAACAACGCCATCAAAAATCCGATTAAGTTTGAGGCACCG	49	"core" staple	21[238]	18[245]
ACCCAAAAGTACCAAAGAACGCGAGGCGTGAAGCCGCTACAA	42	"core" staple	13[182]	3[195]
TTATCAATCCCATCCTCATTGAATCCCCAGGTC'TTTACCTGT	42	"core" staple	7[140]	7[139]
AGTAATAAAAGGGACTCATGGGCGTTAAATAAGTT	35	"core" staple	23[175]	19[195]
TTAACCTGCCTAATGAGTGCACCTGAGACAAAATCCCATGAT	42	"core" staple	18[48]	25[62]
CTATTAGCCTGAAAAGATTCACCAGTCATGACGCTACCGACCGAAAAAG	49	"core" staple	21[154]	18[161]
AGAGCCAAATCTACGTTAATACAGGACGGTGAATTCTGACGA	42	"core" staple	0[62]	4[63]
GGGAGTTAAAGGCAGTATCATCGCCTCACAGCGGAAATTGGGCTCTGTA	49	"core" staple	11[35]	4[28]
GTTATTACATAAATACATAGCATCATTTCTCCGAAGGCCACCCTGATT	49	"core" staple	16[83]	26[63]
CTTAAGTGTCTTACTGCGCGCTACAGGTAACGTG	35	"core" staple	14[265]	25[258]
TTTGC GGAGATGGTGCCCTCATAGTTAGCCAGTACGCAAGCCCAATAGG	49	"core" staple	12[41]	0[21]
GTGTGATTTCGCCATTGCGCGAACTGATAACAGAGATAGAACC	42	"core" staple	19[168]	22[168]
AATGCCCTACATGGGAATGGAGAGCCGC	28	"core" staple	1[252]	4[252]
AGCACTAGGTGGGCTATCAAAATAAATTAAGCAATGTAAGCA	42	"core" staple	27[119]	14[133]
CAGAGGGTAATTACAATAAACTGTACAGAGAGAATAACATAA	42	"core" staple	8[181]	7[181]
CATTTGAATAAATCCCAACGTGGGCGATCTCTGACTAGAATC	42	"core" staple	17[49]	15[62]
AATAATACAATAGATAAGTCCAACATGTTTCTGTC	35	"core" staple	6[153]	9[160]
GCTGAATACCGTACGAGATTTAGGAATAAAAGGAAGGGCACT	42	"core" staple	13[119]	3[132]
TATCAAATGTTTGGCGAATTATTCATTTCCAAACAATAACGG	42	"core" staple	23[77]	20[77]
GGGAGAGTAAGAAACGATTTTTATTTATCAAGAAACCTTTTT	42	"core" staple	7[203]	11[202]
ATTAATTTTTGTTTGAGAAGGATCTACCCGGAGAGGGTAGCATTCAA	49	"core" staple	23[196]	17[202]
GTAGCAACCACCCTCATTTTCACAGAGGACCCGCT	35	"core" staple	1[49]	12[42]
TGAAACCCGGCATTCGGGAACCAGAGCCGAGCCACTACCGTGCGACAT	49	"core" staple	8[251]	11[244]
AACGCCACCACATTGGAATAGGTGTATC	28	"core" staple	2[139]	0[126]
TAGAGCCTCAACAGAATCAATATCTGGTGCCAGCACGCCTGC	42	"core" staple	24[111]	20[98]
AGAAAAGGCTGGCTGACCTTCTACAGACCAGGCGCCAAAAAG	42	"core" staple	6[104]	8[91]
ATCATTCTTTTATTAAGTTTCATTCCATCCAACGCTCAACAG	42	"core" staple	4[160]	11[160]
GCTTGCCACCTTATGTAATAATTCATGAG	28	"core" staple	4[76]	13[76]
TAATAGTTTTACCACCTTTTGATAAGATCACTCATCTTTGCGGAAGCAA	49	"core" staple	4[97]	11[104]
CAGACGAAACGCCAATCAATAATCGGAGAATAGCAGCCTTAACAAGAAA	49	"core" staple	9[161]	6[154]
ATCAGTTATTACCTTGTGAGTGAATAACCTTGCTTCGAATTT	42	"core" staple	26[62]	17[48]
TAGAATTCATTACCCAAATCATGACAAGAAAGAGG	35	"core" staple	5[49]	7[69]

CAGATATGGGTTGATATAAGTTTTTAAATATGCAA	35	"core" staple	1[154]	13[160]
ACTCACAACGCGCGGGAGATGAATATACTTTGAATACAGCTA	42	"core" staple	20[48]	20[49]
CAAAAGGAGCCTTTTGAATTTCAATGACAAGATAAAATTGTGTGCTTGCT	49	"core" staple	7[21]	8[42]
TCAACCGGTTTATTAAAGCCACTTTTGATGATACACCGTATAGTATTAA	49	"core" staple	11[245]	0[238]
CATCGAGTTGATTCTGTAGCTCAACATGATAGCCCCAACTAATGCAAAAT	49	"core" staple	3[133]	1[153]
TTTTATCCAAAGTTGCATGATTAAGACTAGGATTAGAACCTCCCGGGGT	49	"core" staple	3[196]	1[216]
AGAAAAGATTTTGTAAAATTCTGGCCAGCCGGTTGATAATC	42	"core" staple	21[196]	21[195]
AAAGTAATCAGCTAATGCAGAACGCGCCTACCGACAAAAGGT	42	"core" staple	9[147]	9[146]
AAAAGAAAAATCGGGAGTTGCTGCCCTTGAGGCGGTTTTCGTTCCGGC	47	"core" staple	26[48]	21[39]
AGCTGATAGCAAGCCTGGGGTCACAATTCCACACAACAT	39	"core" staple	23[35]	18[24]
ACTCCAATCAAAGCCAAATATAAAGCGGATTGCATATACGAGAATGACC	49	"core" staple	11[105]	7[111]
ATAAATCCAGAAGCCGCGTTTTAGAGAATATAAAGCTGACTA	42	"core" staple	7[112]	8[126]
GCTTTCCGGGGACGCGTAACCGATTGACCGTAATG	35	"core" staple	18[258]	21[265]
ACAGATGGACGGTCTGTTACTTAGCCGGTATACCAAAAAGCTG	42	"core" staple	7[70]	5[83]
AAGAAAAGTAAGTTAACAATAATAAGAGCCCAATCCAACGCT	42	"core" staple	11[203]	4[203]
CAGACTGGAACCGCCTCCCTCAGAGCAATTTGCCTTTAGCGT	42	"core" staple	7[224]	7[223]
AGAGCCGAAAATCATTTCGGTCATAGCCC	28	"core" staple	5[252]	7[265]
TTACCATTGAATTACACCCTCCGCCAGCATTGACA	35	"core" staple	9[245]	4[238]
AAACCAAGTACCCTGTCATAAATATTAA	28	"core" staple	4[139]	5[139]
ATAATCCATTATCAAGATAACTATATGTAAGATGA	35	"core" staple	25[77]	18[84]
GCTGCATTAATGAAATTGGGCGGGCAAC	28	"core" staple	21[21]	23[34]
TCGGAACGAACCCTCACGCTGAGCCCACGCATA	33	"core" staple	13[19]	10[18]
TACCAGTAAACGAAGAACCGCCACCCTC	28	"core" staple	2[76]	0[63]
TAAAGCATGAGGCGGTTCAGTATATATTTAATAGAT	35	"core" staple	21[119]	24[112]
GTGAAATAGATAGGCACTATTAAGAACAATGAGTCGCTATT	42	"core" staple	17[28]	15[41]
ATTGTCACCAGGGTTTTCCCATGTAAAACCAGG	33	"core" staple	14[244]	37[249]
GTGAGCGAACGGCGGTGCATCTGGCAAACAAGAGATCTCCGT	42	"core" staple	22[251]	21[237]
GTAATCTACGTAACAGCGCGAAGAATACACTAAAATAAACGG	42	"core" staple	6[76]	12[77]
CTTGAAACAATATATTTTTAAAGAAAACAAATCGC	35	"core" staple	15[63]	19[69]
CCCAATAGCAAGCAAAGCCGTCAAGAACGCATGTAGAAACCAACATGTA	49	"core" staple	2[160]	10[154]
CATTAATTGCGTTGCGGTAAAGCGGTCCACGCTGGTT	37	"core" staple	21[40]	24[21]
AATAAATTAAGCTGACAGTGCGGCCCTCCCCGATATTTATT	42	"core" staple	16[160]	26[147]
AGATTGTATAAGATATCGATGAACGGTAATCAGGTGTACGCC	42	"core" staple	21[217]	24[217]

CGTGGCGGCTCGCCTTATGACCCTGTAATGCCTGA	35	"core" staple	27[182]	16[189]
CAGGAAAGTAGAAGACGTGTAGGTAAAGTAAATAA	35	"core" staple	25[182]	18[189]
GTAGCAAAGTCAAAAAAATTTTTAGAACCCTCATAGAAAGGC	42	"core" staple	26[230]	17[216]
GACTCTAGGAAAGCACTATCGGCCAGCCTACATTTACGACC	42	"core" staple	14[174]	23[174]
TTGACGGTGATACCAAATCGGTTGTACCTAGCATTGTGGCATATTACTA	49	"core" staple	27[161]	18[168]
TCTAGCTGGCGAGGAGAAGCGACGGC	26	"core" staple	36[249]	38[238]
TAAATGAATTTTTGGATCGTCGGGTAGC	28	"core" staple	3[21]	13[34]
GTAATTAATAGTAGAAAAACACTGGAGT	28	"core" staple	16[188]	14[175]
CGAGCTTTCTCAAAGGGGGGATTTCGCTATTACG	33	"core" staple	37[226]	15[244]
CAGTGCCGGTAACGACCTTATCTGGCAATGCCGTT	35	"core" staple	38[237]	26[231]

Modified staples 1	Length (nt)		Start	End
CGGATGGACCGCCAAGGTAGAAAGATTCAAGAGCAACACTAT AAAAAAAAAA	52	nanorod handle	13[98]	2[98]
AACAGTGCAATTACGATAATATTTAGAA AAAAAAAAAA	38	nanorod handle	20[97]	25[97]
CTAATATCAGAGAGATAGCAAATAAACACAGAGCC AAAAAAAAAA	45	nanorod handle	9[175]	4[182]
AAGACAAAGAACCGGAGAAGAGCAAAAGAAATGCTCCAGAAGCAAGTTT AAAAAAAAAA	59	nanorod handle	18[118]	27[97]
TAGGGCTTGCTGGTTCATCGTAGGATGCCCTGTCTTTCCTT AAAAAAAAAA	52	nanorod handle	11[161]	4[161]
GTATTAGGAAACCAGATGCAAATCCAATCGCAATGTTTTGCGGCCGTAA AAAAAAAAAA	59	nanorod handle	25[98]	27[118]
GAAGTTTACCCTCACTAACGGAACAACACTACTGGCTCATTA AAAAAAAAAA	52	nanorod handle	13[77]	2[77]
CTAAAGTGTGCGAGAAGAAGGCTTATCCGGTATCATTACCGCG AAAAAAAAAA	52	nanorod handle	13[161]	2[161]
TGAAACAAACATCATGGAAACTCATATTTACGTGA AAAAAAAAAA	45	nanorod handle	18[83]	27[76]
AGCCCGAAAGACTTGAACCAGACTGGATGAGGGGG AAAAAAAAAA	45	nanorod handle	9[91]	4[98]
CCTGTTTTCGCGAGCTGGTAATTTAGAGC AAAAAAAAAA	38	nanorod handle	18[160]	27[160]
TTATAGTAAAAATCCTCAAATGCTTTAAAATACTGCGGAATCTTTGCAA AAAAAAAAAA	59	nanorod handle	8[125]	4[119]
ATTCGCCGAGAGGATTATACCATCAAT AAAAAAAAAA	38	nanorod handle	20[76]	25[76]
GCGATTTAAGACGAATCAGTGAATAAG AAAAAAAAAA	38	nanorod handle	3[77]	4[77]
TCATATGTACCCCTAAAACAAAATAAGAAATACCATTGCAA AAAAAAAAAA	52	nanorod handle	20[195]	25[181]
TAATTTGCTATTTTGCACCCATTAAATC AAAAAAAAAA	38	nanorod handle	4[181]	2[182]
TAGCACAACCTGTTTAGCTATAAAGTTTACCCTAA AAAAAAAAAA	45	nanorod handle	16[132]	27[139]
CTTCTGATCTTTAATAAAAAATACCGAACTTGAAATCAATCGTAGAACAA AAAAAAAAAA	59	nanorod handle	22[167]	25[160]
ACACCGGAATCATACAATTCTAACTCAACGGCGAA AAAAAAAAAA	45	nanorod handle	18[188]	27[181]
ATTTTCGAGACCAGTATAAAGATAACAGAACAAGCGATACAT AAAAAAAAAA	52	nanorod handle	10[139]	2[140]

ATTTAGGCAGAGGCTTTACGAGGGTATT AAAAAAAAAA	38	nanorod handle	10[153]	4[140]
TAGGGGCTCGAGGTGAACAAAACCTTTACAAACAAT AAAAAAAAAA	45	nanorod handle	14[111]	25[118]
ATAATGCCCAATTCTGCGAATAGCGAGATTACGAG AAAAAAAAAA	45	nanorod handle	13[126]	2[119]
ATATTTTCAGCAGAAGATAAATTCTGACTCTTTAGTAAATCC AAAAAAAAAA	52	nanorod handle	21[140]	25[139]
Right-handed DNA lock modifications				
GACTAAAGACTTTTACGTAATAGGCCAAAAACAAAGTGCTCCAAATCATA– –tttt–duplex 1	73	RH pH switch	13[56]	8[63]
duplex 2–tttt–AGGGAACCGAACCACGAAATCCGCGACCTACAACG	59	RH pH switch	8[62]	10[56]
CTGATAAATTAATGAAAGGCTATCGTAAACAGGA–tttt–ssDNA	59	RH pH switch	18[223]	21[216]
Left-handed DNA lock modifications				
CATCACTAAGGGAAGAAAGCGCCCCGCTGCGGGAG–tttt–duplex 1	59	LH pH switch	26[202]	15[209]
duplex 2–tttt– –AAGCCTTTATTTTCATCCCGCCAAAATAAAAAGGAGTTGATTAAGAGTC	73	LH pH switch	15[210]	25[216]
CAAATTAAGTGAACACAAGAATTGAGTTAAGCCTTACAGAAT– –tttt–ssDNA	66	LH pH switch	8[209]	8[210]

¹ Modifications introduced to the staple strands are highlighted with bold fonts. Thymines used as spacers are highlighted with the lowercase font, t.

table S2. Sequences of the pH-sensitive DNA locks.

80% of TAT	Duplex1	5' TTCTTTTCTTTTCTTTTCTT 3'
	Duplex2	5' AAGAAAAGAAAAGAAAAGAA 3'
	ssDNA	5' TTCTTTTCTTTTCTTTTCTT 3'
70% of TAT	Duplex 1	5' TTCTCTTCTTCTTCTTTTCTT 3'
	Duplex 2	5' AAGAAAAGAGAAGAAGAGAA 3'
	ssDNA	5' TTCTTTTCTTCTTCTTCTT 3'
60% of TAT	Duplex 1	5' TTCTCTTCCTCTCTTCTCTT 3'
	Duplex 2	5' AAGAGAAGAGAGGAAGAGAA 3'
	ssDNA	5' TTCTCTTCTCTCCTTCTCTT 3'
50% of TAT	Duplex 1	5' TTCTCCTCCTCTCTCCTCTT 3'
	Duplex 2	5' AAGAGGAGAGAGGAGGAGAA 3'
	ssDNA	5' TTCTCCTCTCTCCTCCTCTT 3'

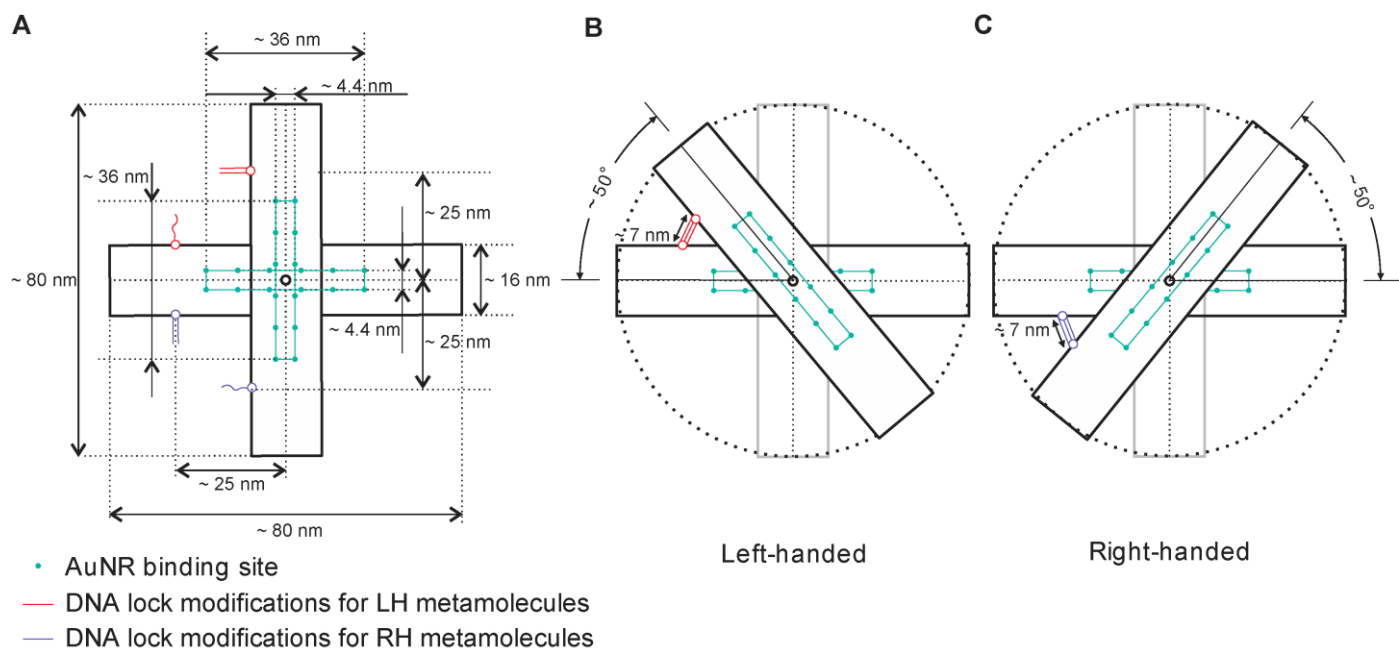


fig. S2. Schematics of the DNA origami template.

table S3. Thermal annealing temperatures and times.

Temperature, °C	Time, min
80	15
79, 78, ..., 72, 71	1
70, 69, 68	5
67, 66, 65, 64, 63	10
62	15
61	20
60	30
59, 58, ..., 39, 38	60
37, 36	45
35	30
34	20
33, 32	10
31, 30, ..., 26, 25	5
24, 23, 22, 21	2
20	Hold

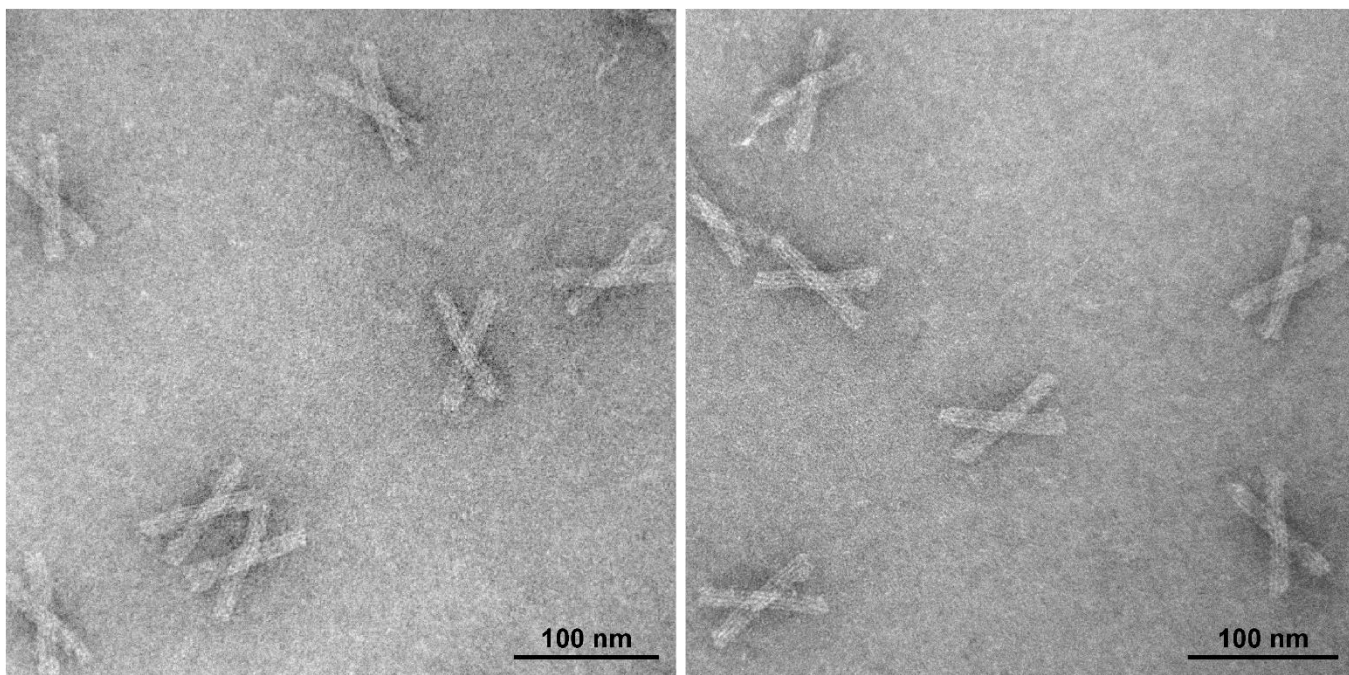


fig. S3. TEM images of the DNA origami templates after thermal annealing and agarose gel purification. Images were taken from the LH 80% DNA origami structures (pH = 8.3).

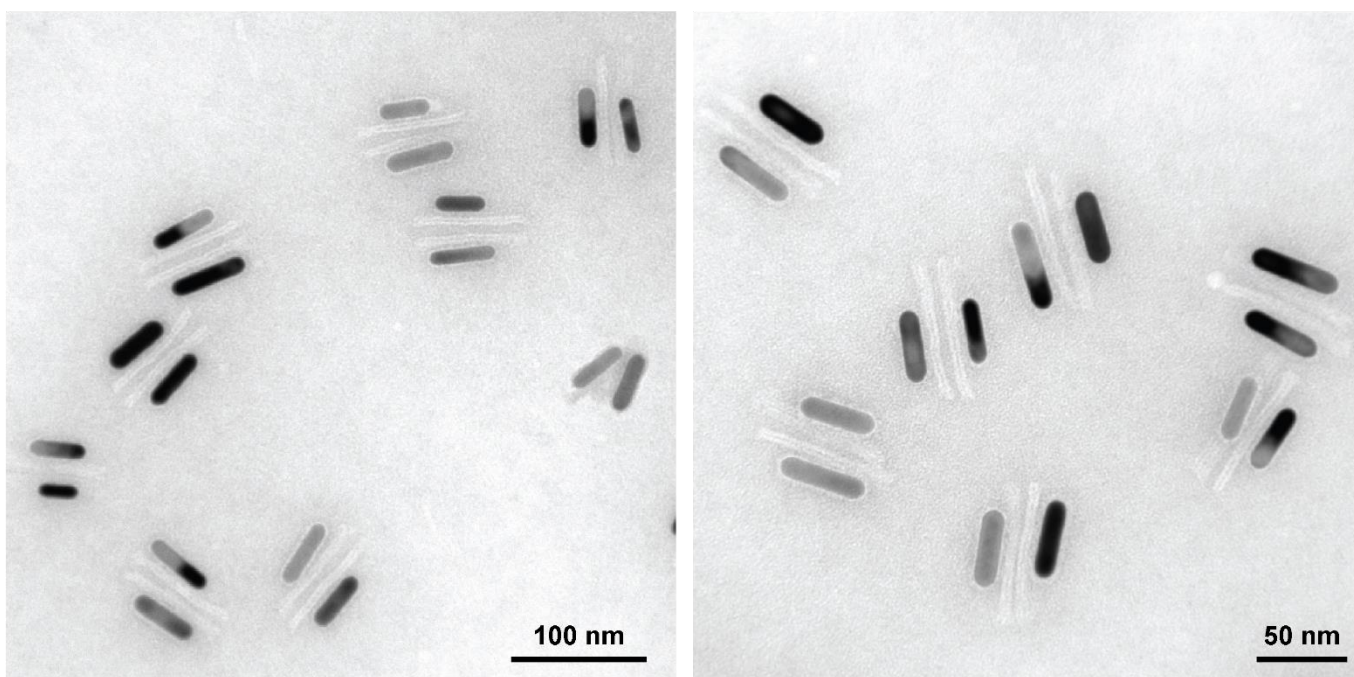


fig. S4. Additional TEM images of the DNA origami-based metamolecules.

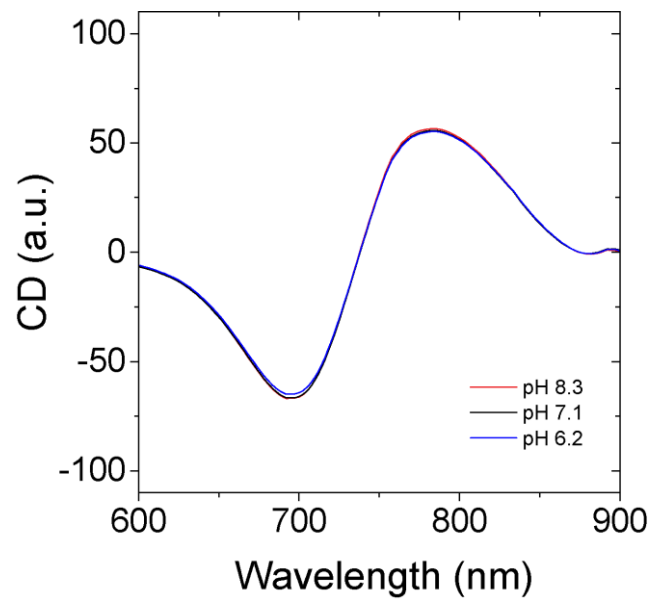


fig. S5. CD response of the plasmonic metamolecules at different pH values with pH-insensitive locks.