

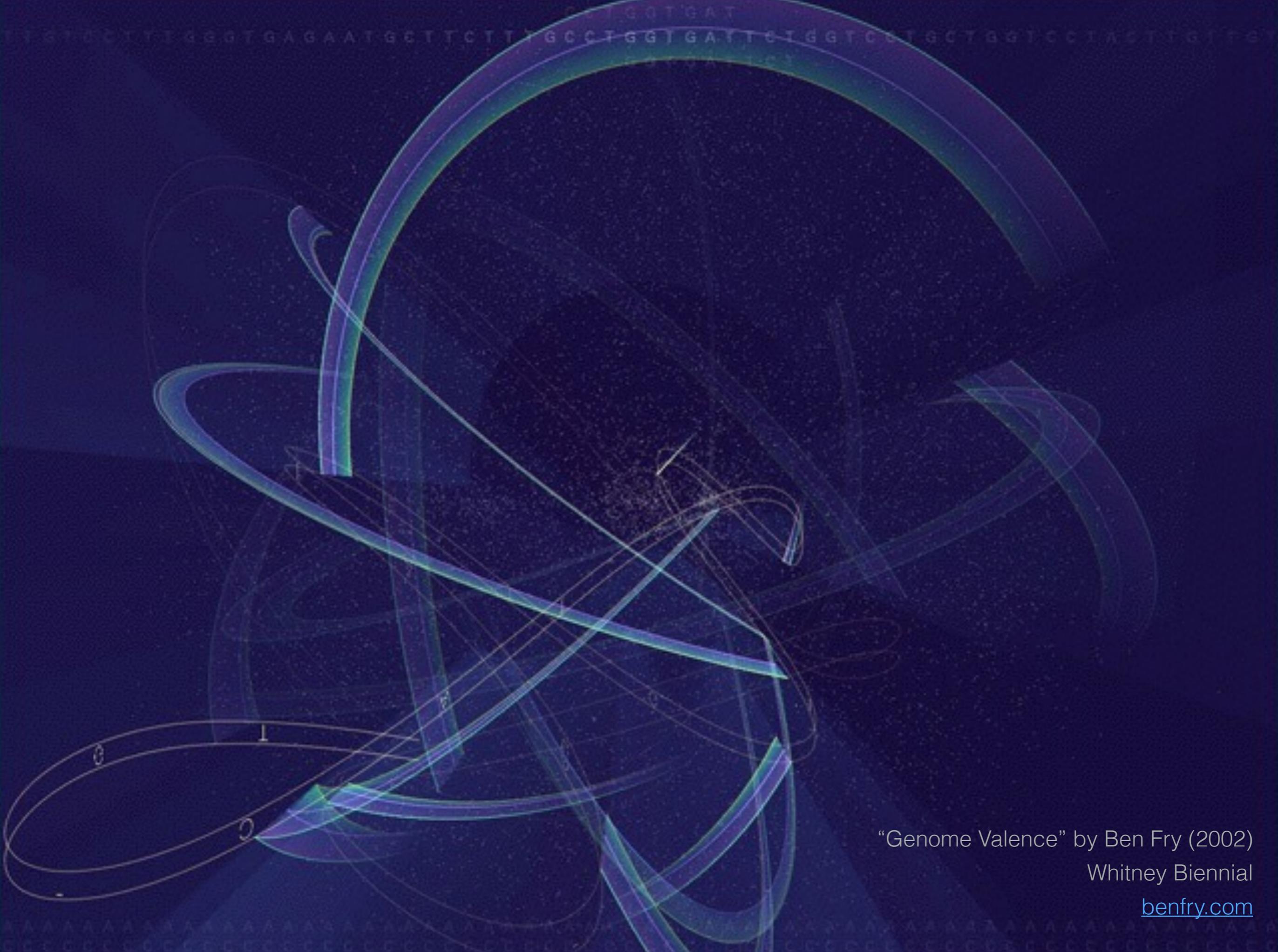
Visualizing 3D Genomes

Marc A. Marti-Renom

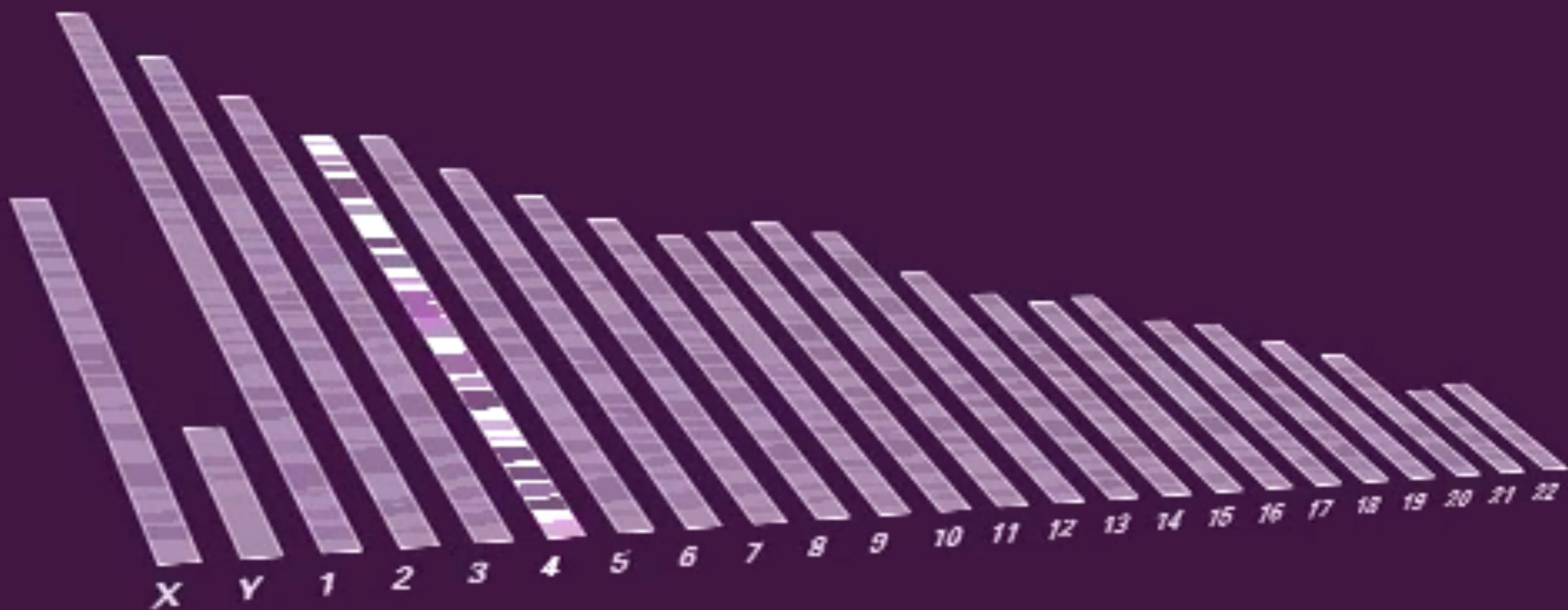
Structural Genomics Group (ICREA, CNAG-CRG)

<http://marciuslab.org>
<http://3DGenomes.org>
<http://cnag.crg.cat>

cnag CRG[®]  ICREA



“Genome Valence” by Ben Fry (2002)
Whitney Biennial
benfry.com

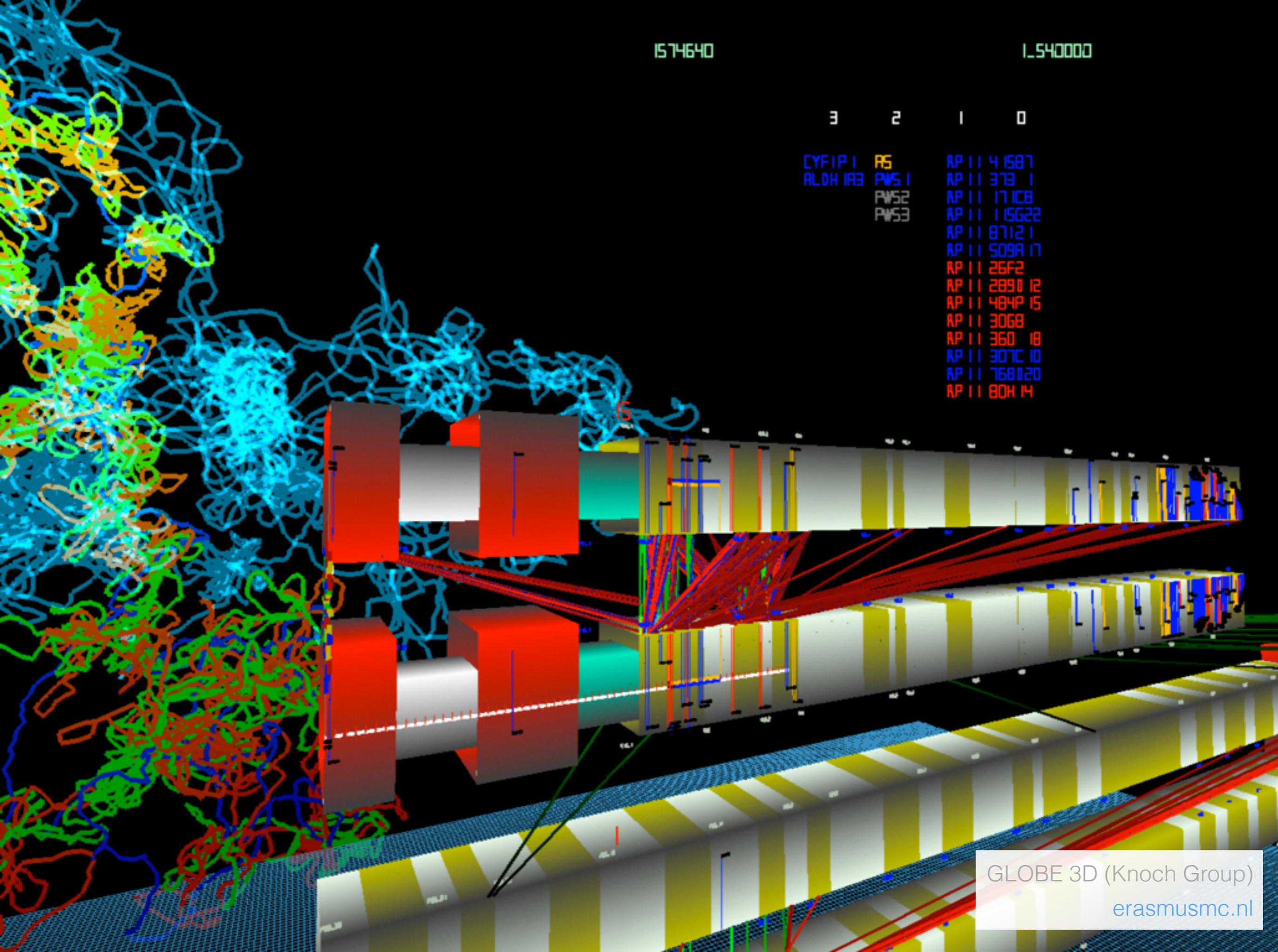


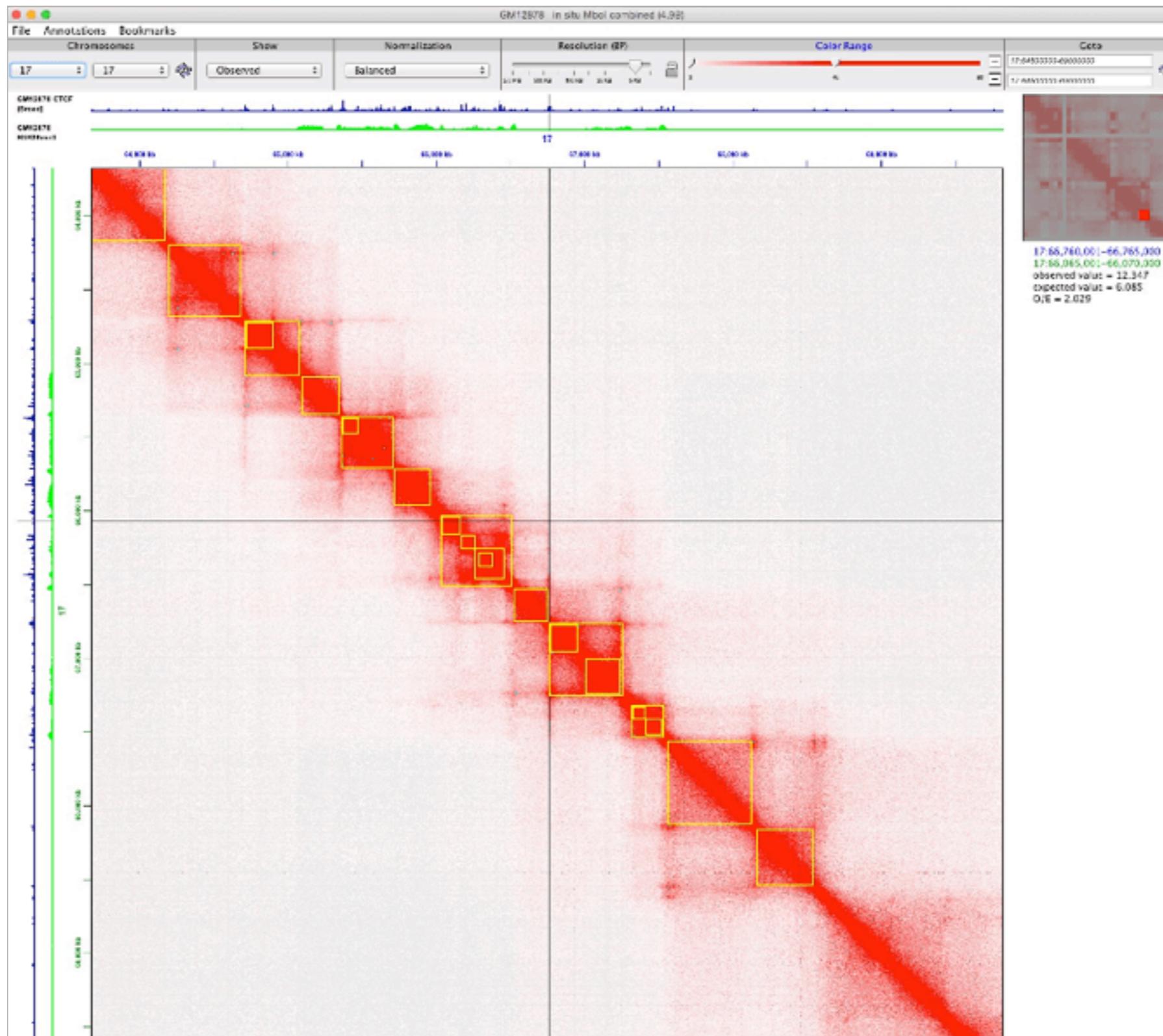
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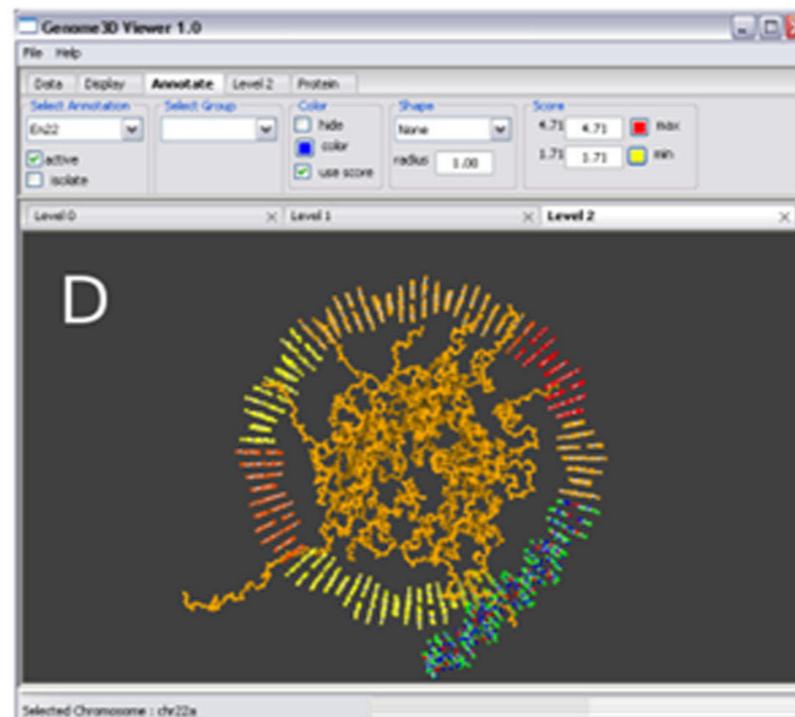
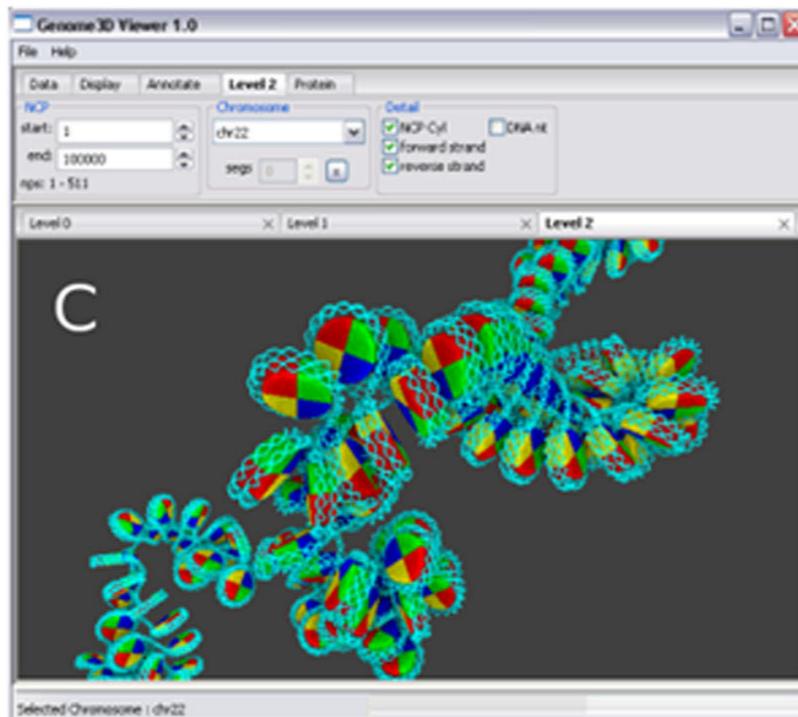
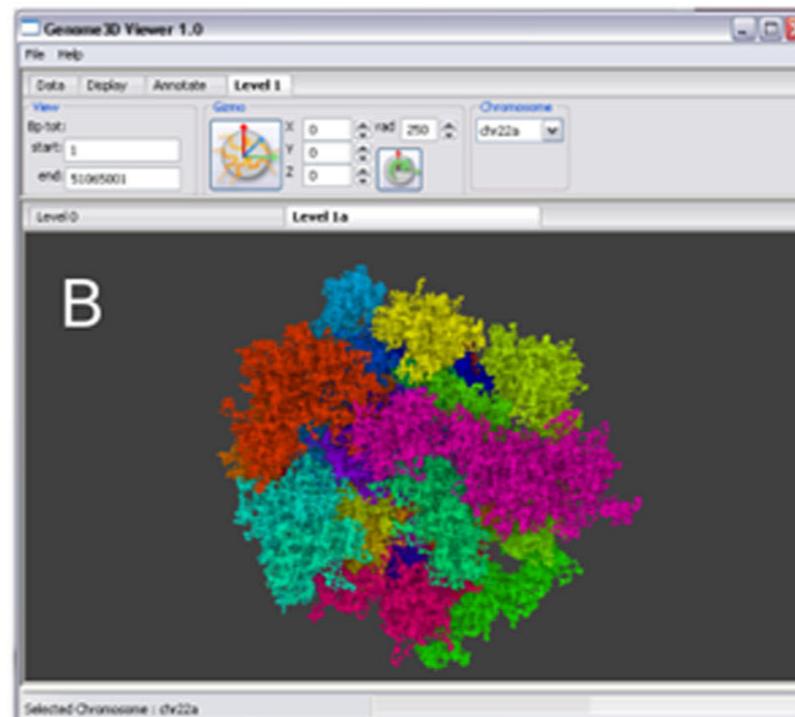
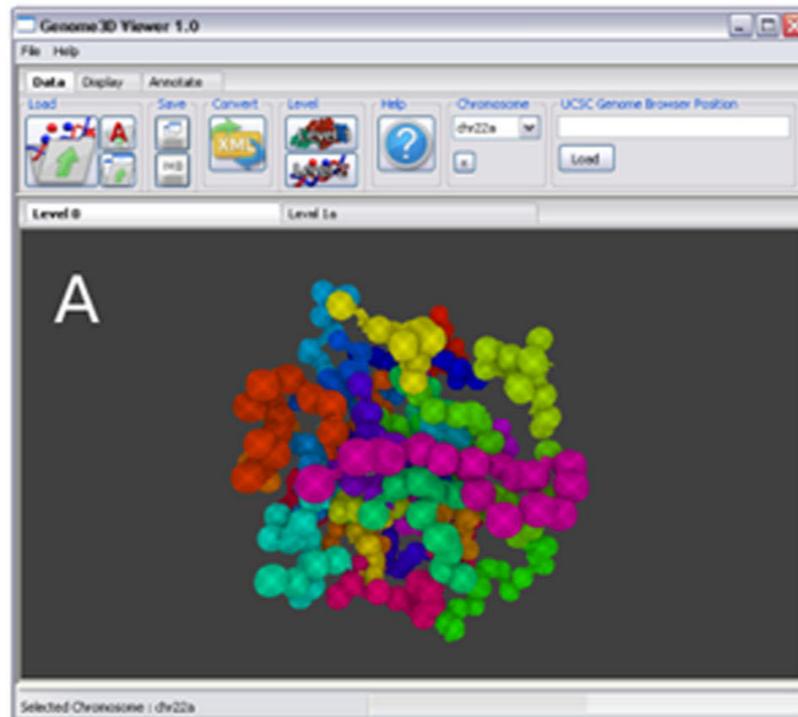
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ALDH1A3	PWS1	AP11	3731
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		AP11	509A17
		AP11	26F2
		AP11	289012
		AP11	484P15
		AP11	3068
		AP11	36018
		AP11	307C10
		AP11	768020
		AP11	80H14





Rao et al. (2014) Cell [Lieberman-Aiden Lab]

aidenlab.org/juicebox



1:40

tab

M L

X

I

Explore the 3D Human Genome

Linear mode (TAB for info)

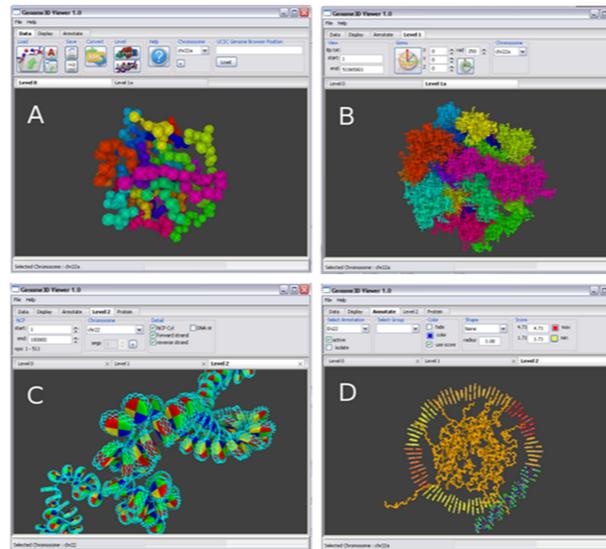
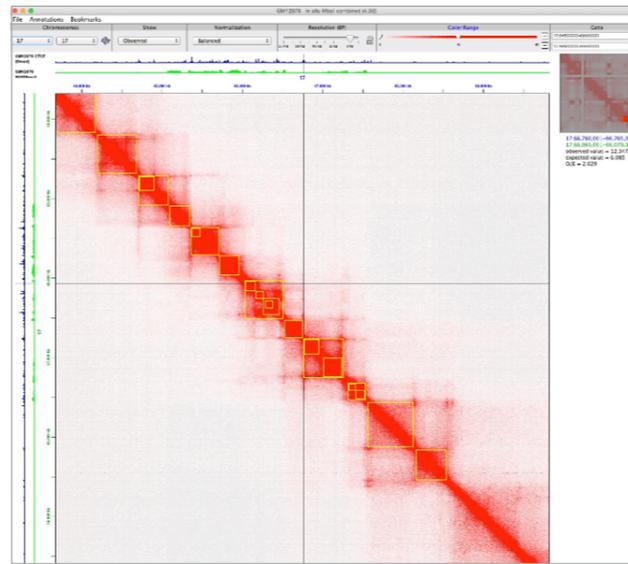
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@Bases: **GATTTCGTTTACTGGTTGAAAGCCGAGAGGAAGTTGATGATCCGCC...**

@SNPs: **rs143747077; rs76565890; rs188494673; rs191855954; rs12603265; rs183670229; rs34756632; rs145541896; rs12946972; rs61100637; rs12936687; rs188389004; rs58272260; rs182377000; rs148880488; rs12947901; rs142660760; rs151004186; rs74000853; rs1007850; rs77957187; rs187376157; rs142307122; rs145755087; rs1007849; rs113455293; rs181480532; rs201491327;**

Butyaev et al. (2015) Nucleic Acids Research [Waldispühl Lab]

3dgb.cs.mcgill.ca



1:40

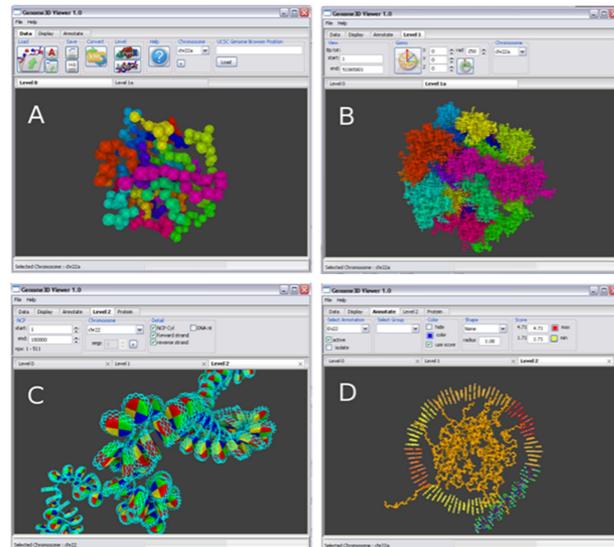
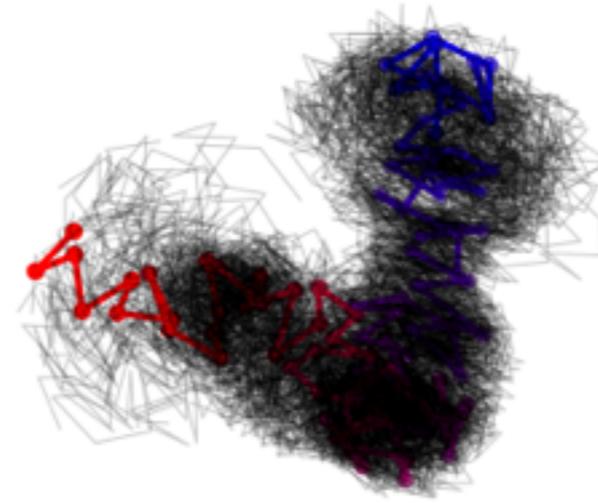
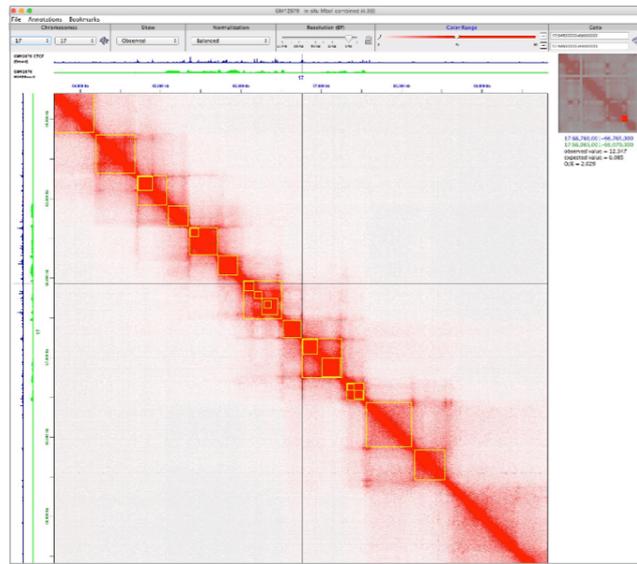
Explore the 3D Human Genome

Linear mode (TAB for info)

Selection: chromosome: 17, helix A, bases: 78518548-78620048

@Bases:

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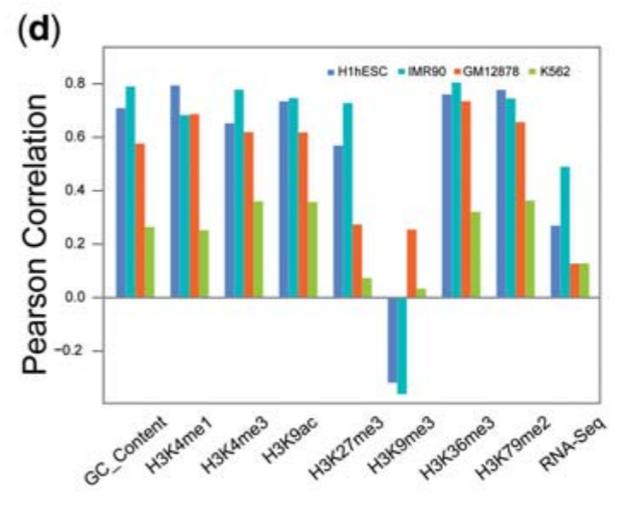
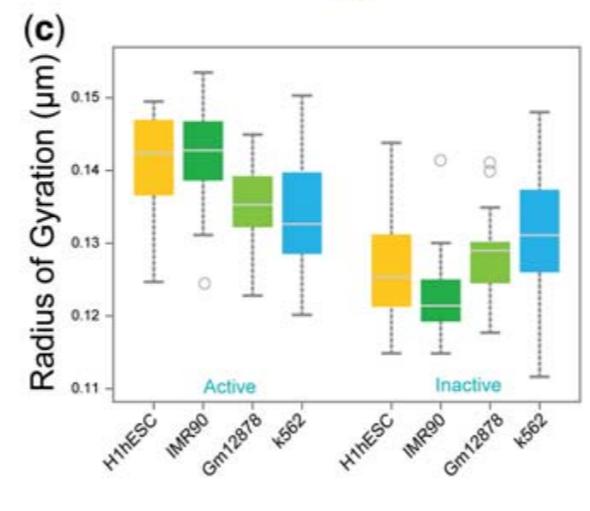
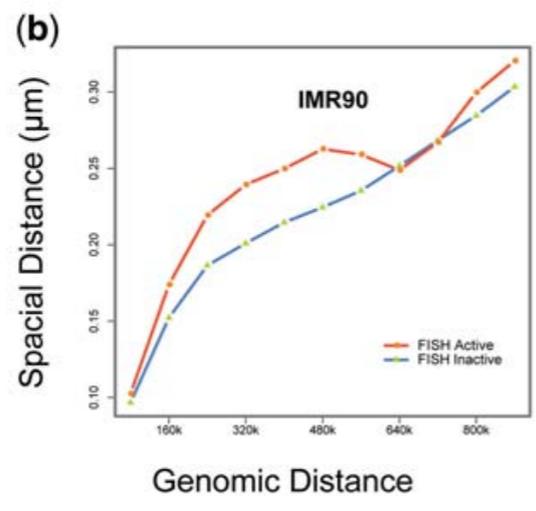
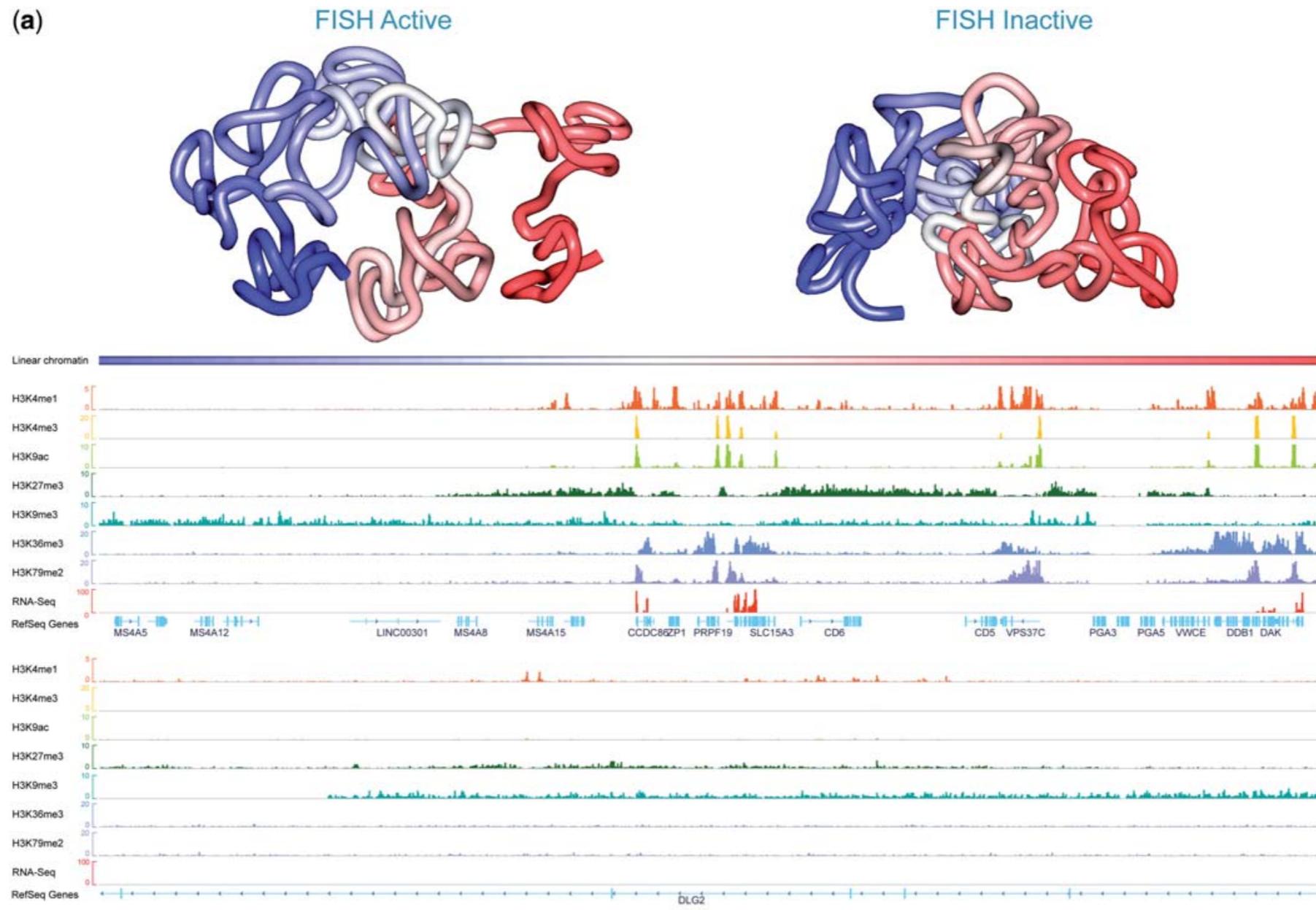
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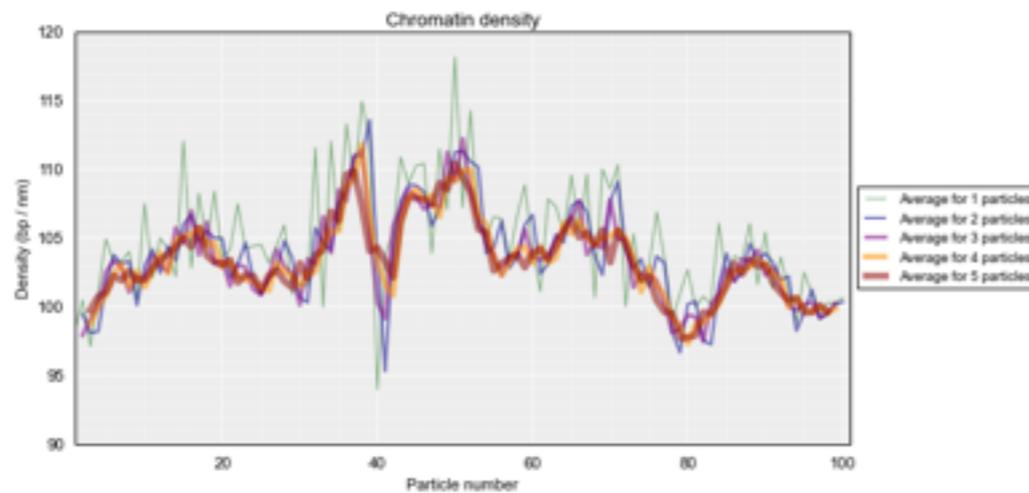
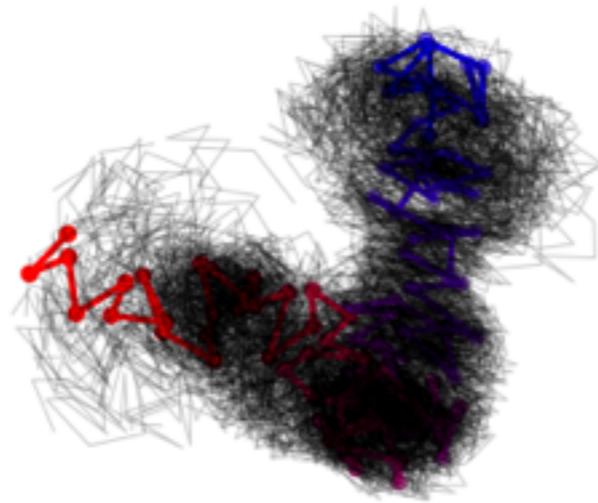
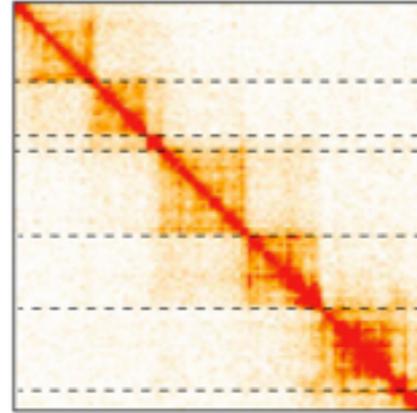
Explore the 3D Human Genome

Linear mode (TAB for info)

Selection: chromosome: 17, helix A, bases: 78618549-78620048
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File Format & Visual Grammar





Map analysis

Model building

Model analysis



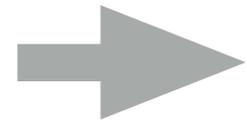
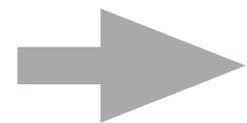
TADkit

<http://3DGenomes.org>

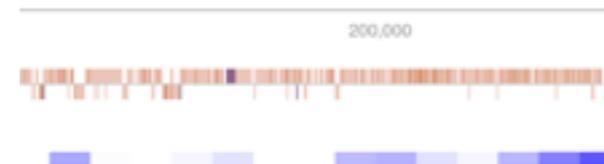
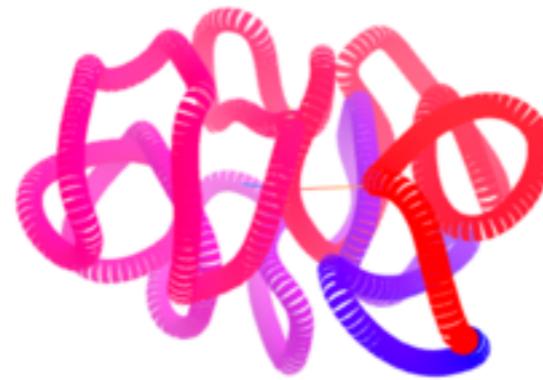


TADbit

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HSATCNA3621	chrX	15580802	15590800	0	1	0	0	0	0	0	0	0	0
HSATCNA3622	chrX	15590540	15590816	0	1	1	1	0	0	0	0	0	0
HSATCNA3624	chrX	15590872	15591497	0	1	1	1	0	0	0	0	0	0
HSATCNA3626	chrX	15591621	15591629	0	0	1	1	0	0	0	0	0	0
HSATCNA3627	chrX	15591626	15591663	0	0	1	1	0	0	0	0	0	0
HSATCNA3629	chrX	15591499	15591802	0	0	1	1	0	0	0	0	0	0
HSATCNA3630	chrX	15591839	15591948	0	0	1	0	0	0	0	0	0	0
HSATCNA3631	chrX	15591843	15591857	0	0	1	0	0	0	0	0	0	0
HSATCNA3632	chrX	15591854	15591875	0	0	1	0	0	0	0	0	0	0
HSATCNA3634	chrX	15591711	15591822	0	0	1	0	0	0	0	0	0	0
HSATCNA3639	chrX	15591448	15591668	0	0	1	0	0	0	0	0	0	0
HSATCNA3640	chrX	15591657	15591801	0	0	1	0	0	0	0	0	0	0
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HSATCNA3659	chrX	15591917	15591911	0	0	1	0	0	0	0	0	0	0
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HSATCNA3662	chrX	15600459	15600718	0	0	1	0	0	0	0	0	0	0
HSATCNA3663	chrX	15600715	15601000	0	0	1	0	0	0	0	0	0	0
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THREE.js

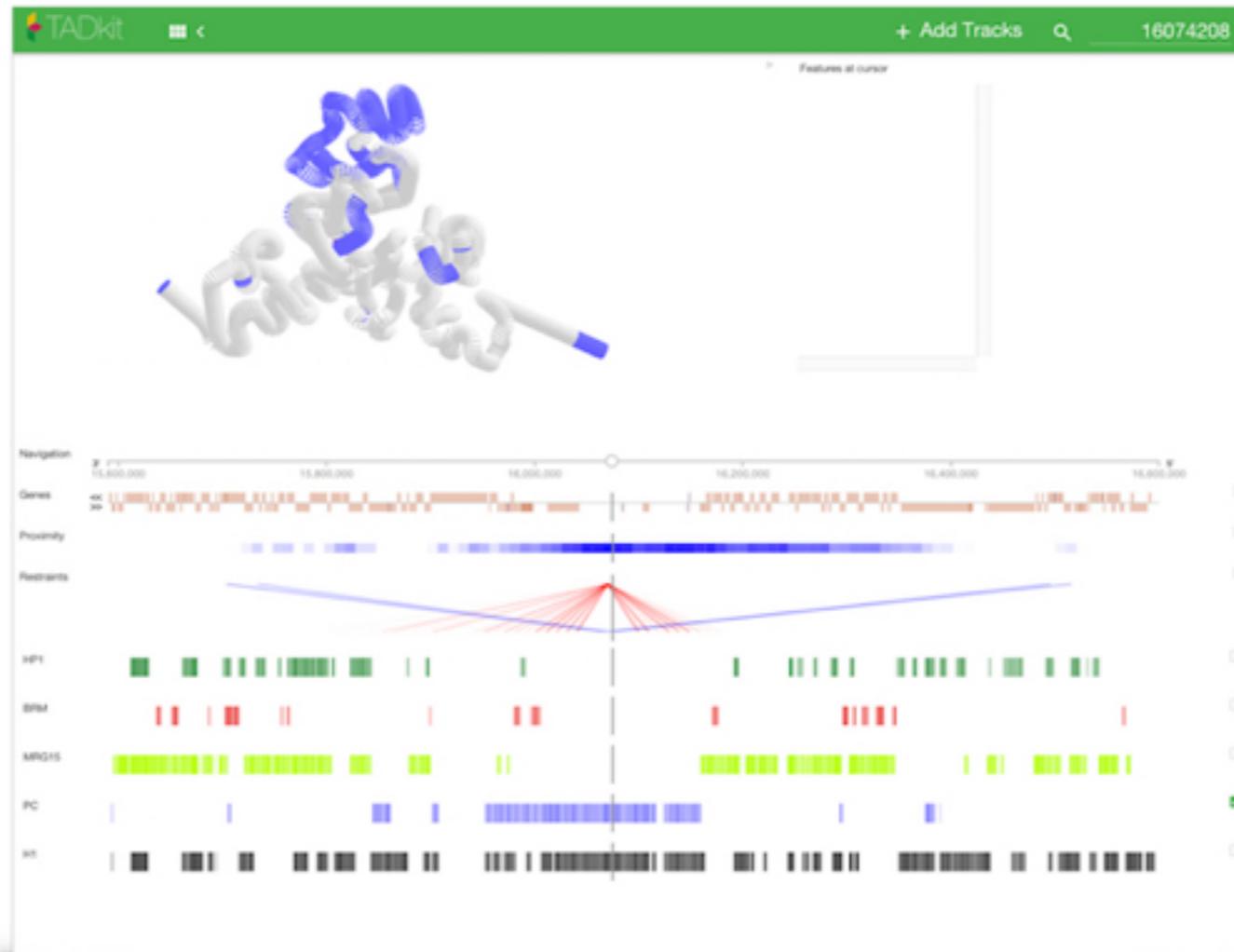


D3.js





TADkit

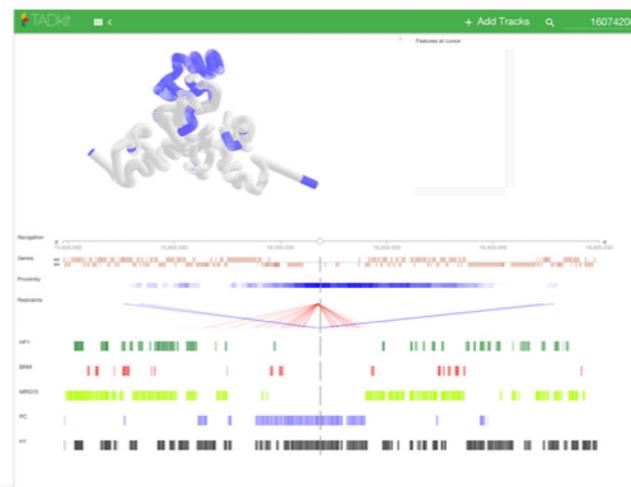


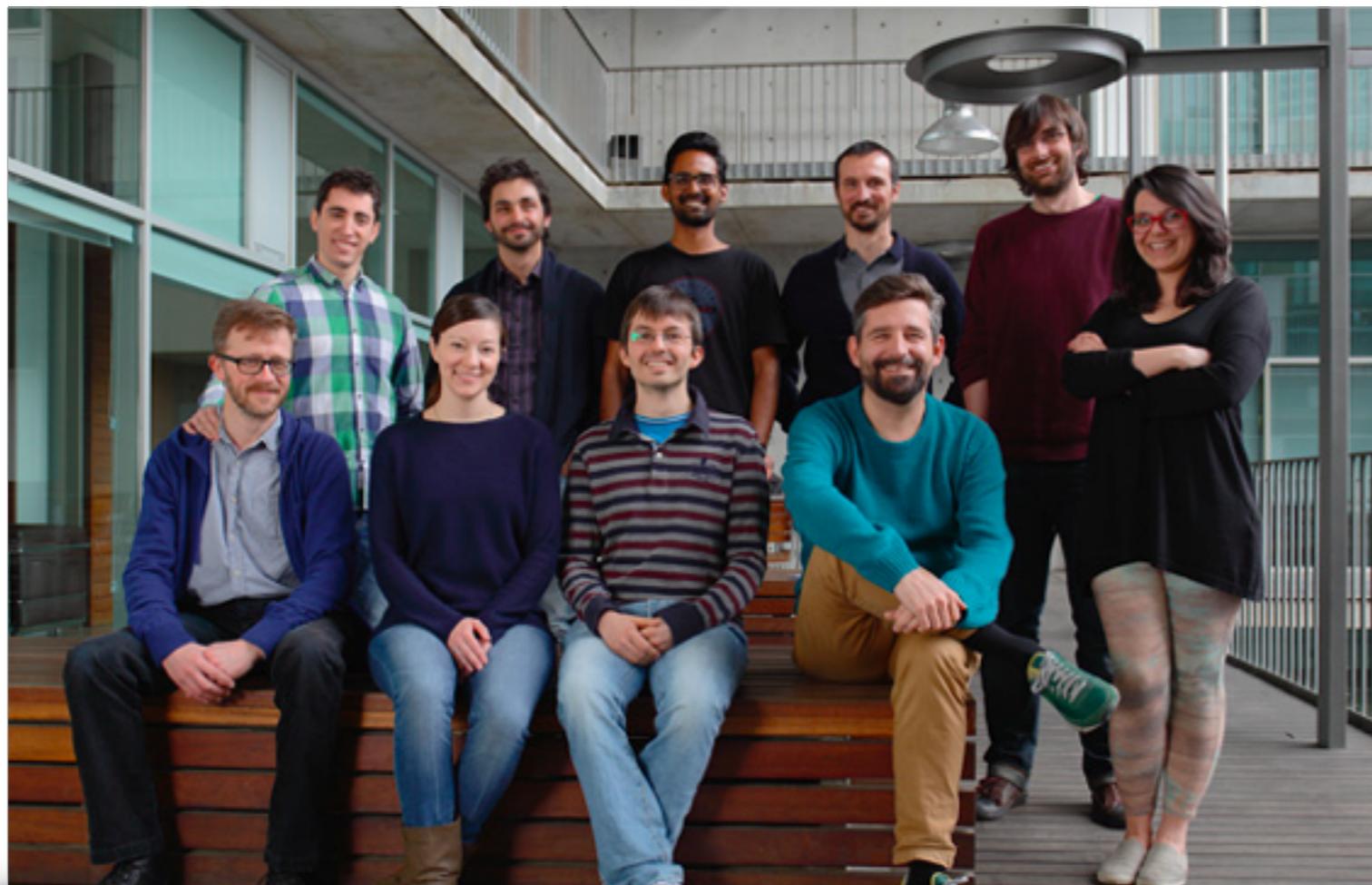




 TADbit

 TADkit





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David Dufour
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Paula Soler
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<http://marciuslab.org>
<http://3DGenomes.org>
<http://cnag.crg.cat>

