"Bacterial" Genome Structures
4BIM - AMIG - INSA

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http://pbil.univ-lyon1.fr/members/mbailly/AMIG.html
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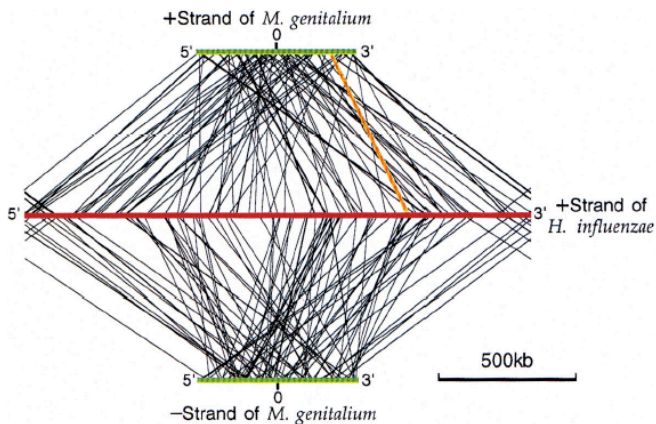## Outline

1. Introduction

2. Topology & #

3. Genome size

4. Replichores and gene orientation

5. Chirochores

6. G+C content

7. Codon usage

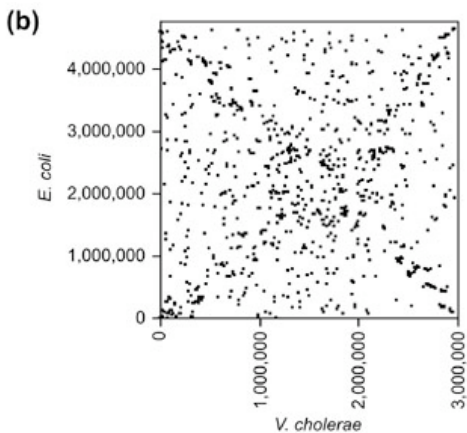8. X-rated structure

X-rated structure: gene order evolution

Gene order comparison in bacteria

Watanabe *et al.* (1997) *J. Mol. Evol.*, **44**:s57-s64.

Genomic dot plots (*E. coli vs. V. cholerae*)

(b)

E. coli axis: 0, 1,000,000, 2,000,000, 3,000,000, 4,000,000

V. cholerae axis: 1,000,000, 2,000,000, 3,000,000
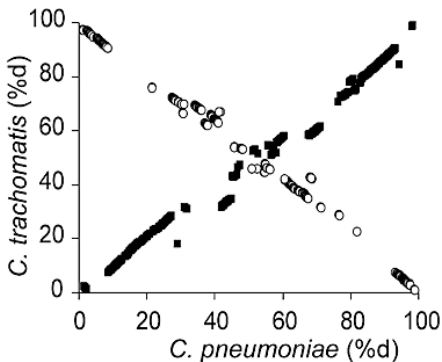
V. cholerae

Eisen *et al.* (2000) *Genome Biology*, **1**:1–9.

Genomic dot plots (*C. pneumoniae* vs. *C. trachomatis*)

Eisen *et al.* (2000) *Genome Biology*, **1**:1–9.

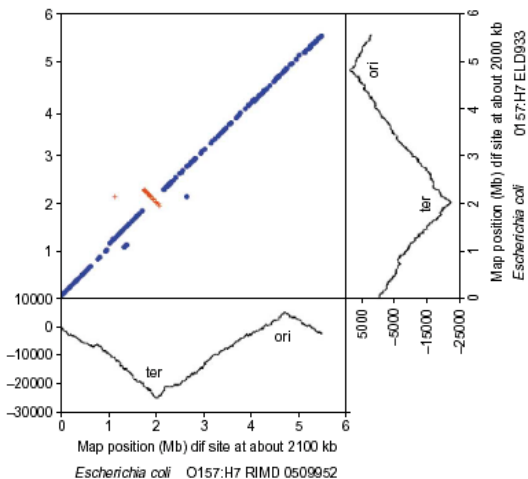marc.baillybechet@gmail.com   Bacterial genome structures

Genomic dot plots (*C. pneumoniae vs. C. trachomatis*)

Tillier & Collins (2000) *Nature Genetics*, **26**:195–197.

Genomic dot plots (0157:H7 *vs.* O157:H7)
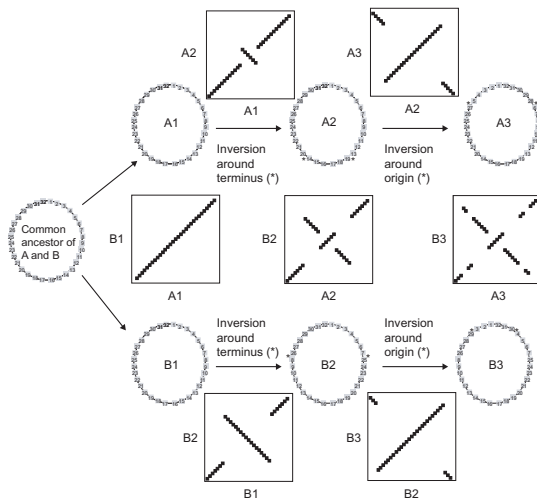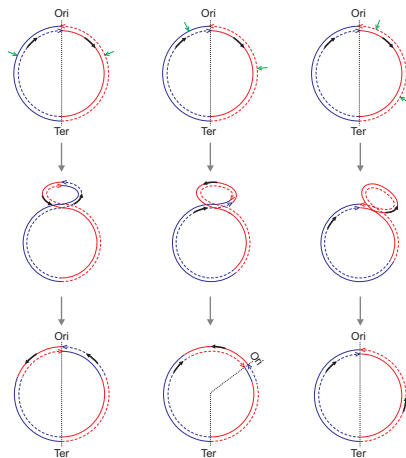
Genomic dot plots (0157:H7 *vs.* O157:H7)

Lobry & Louarn (2003) *Curr. Op. Microbiol.*, **6**:101-108.
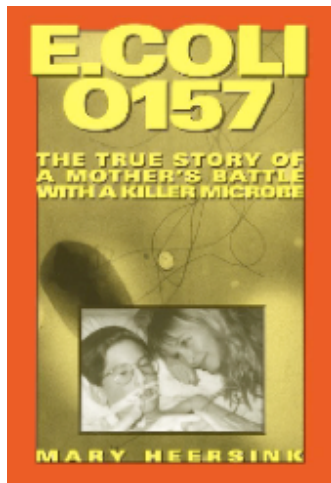
Simulation of symmetric inversions

Three models for inversions

Mackiewicz *et al.* (2001) *Genome Biology*, **2**:1–4.