

Figure 1: 
$$ii = \frac{\frac{insertioncites(gene)}{length(gene)}}{\frac{insertioncites(genome)}{length(genome)}}$$

**Method:** gammamixEM

**trimming:** 5 prime site: 5%, 3 prime site: 10%

**plot manipulations:** Added 0.001 to all numbers, used Lars' shape and rate parameters

**Number of essential genes:**

Klebsiella pneumoniae Ecl8: 333

Escherichia coli ETEC CS17: 563

Enterobacter: 336

Klebsiella pneumoniae RH201207: 329

Escherichia coli ETEC H10407: 410

Escherichia coli UPEC: 314

Citrobacter: 319

Salmonella enteritidis: 202

Salmonella typhimurium SL1344: 423

Salmonella typhimurium D23580: 309

Salmonella typhimurium A130: 226

Salmonella typhi: 266

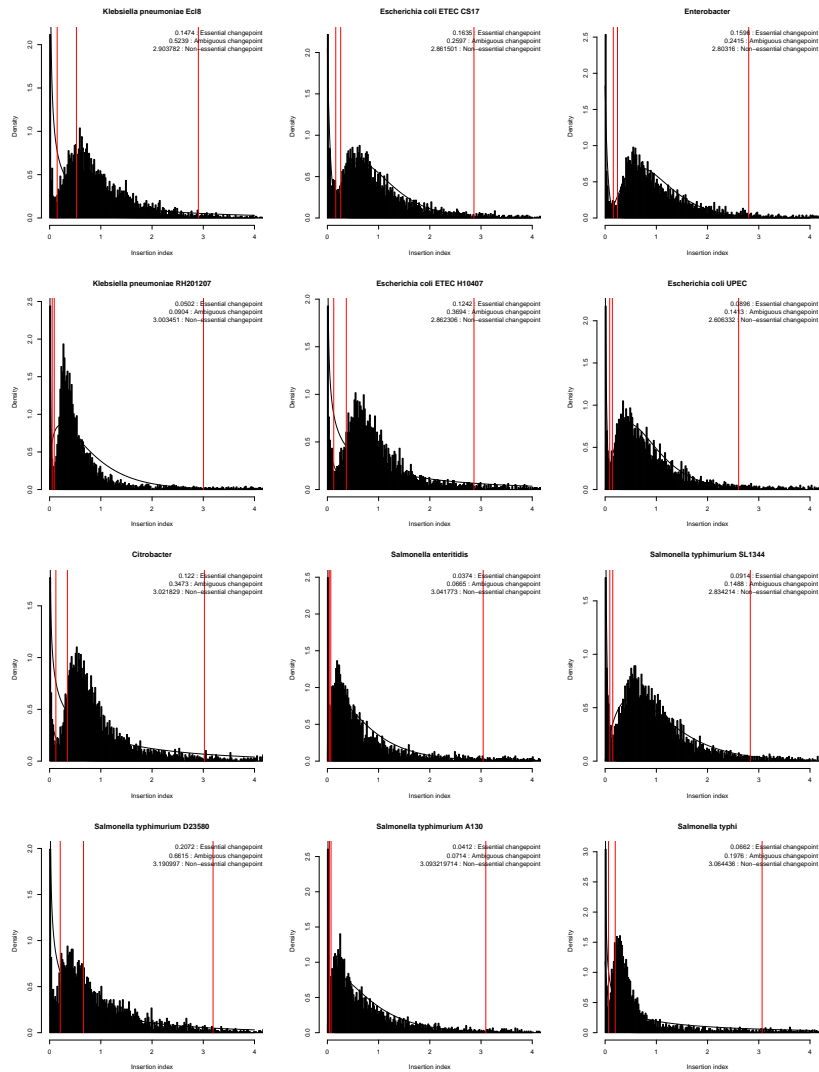


Figure 2: 
$$ii = \frac{\frac{reads(gene)}{length(gene)}}{\frac{reads(genome)}{length(genome)}}$$

**Method:** gammamixEM

**trimming:** 5 prime site: 5%, 3 prime site: 10%

**plot manipulations:** Added 0.001 to all numbers

**Number of essential genes:**

*Klebsiella pneumoniae* Ecl8: 407

*Escherichia coli* ETEC CS17: 549

*Enterobacter*: 348

*Klebsiella pneumoniae* RH201207: 366

*Escherichia coli* ETEC H10407: 403

*Escherichia coli* UPEC: 369

*Citrobacter*: 343

*Salmonella enteritidis*: 269

*Salmonella typhimurium* SL1344: 353

*Salmonella typhimurium* D23580: 580

*Salmonella typhimurium* A130: 315

*Salmonella typhi*: 386

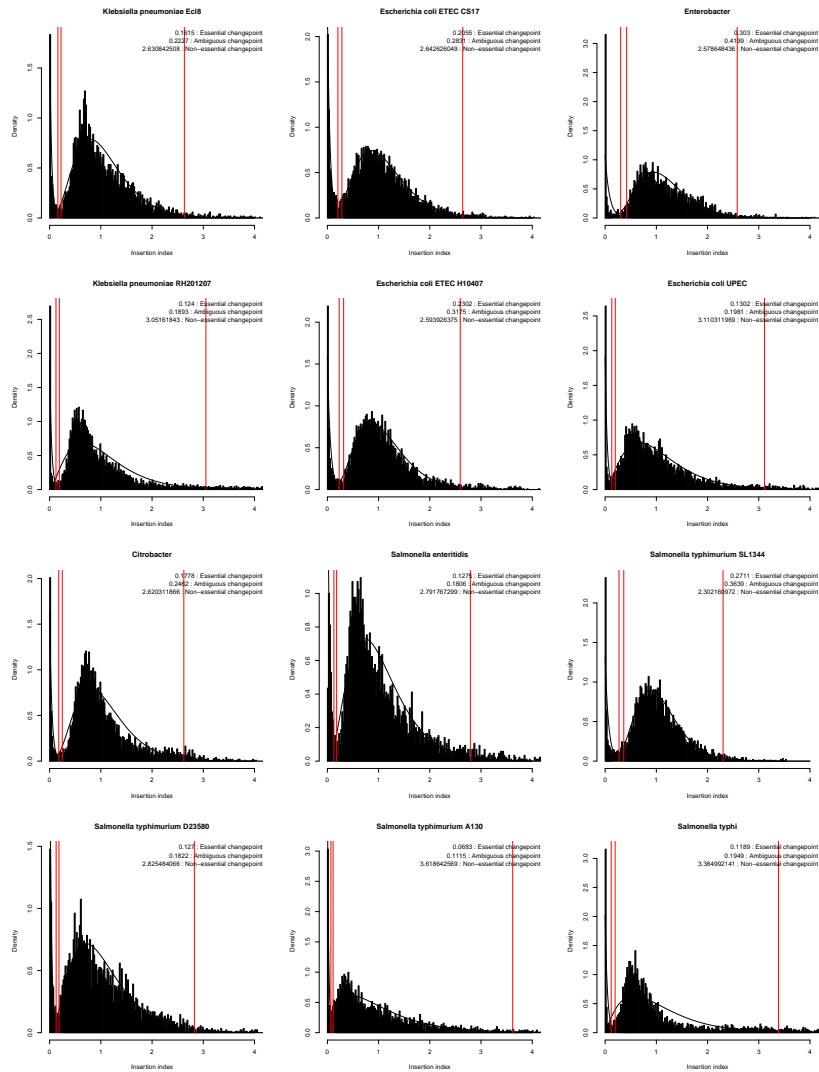


Figure 3:  $ii = \frac{\frac{insertions(gene)}{length(gene)}}{\frac{insertions(genome)}{length(genome)}}$

**Method:** Lars' method

**trimming:** 5 prime site: 5%, 3 prime site: 10%

**plot manipulations:** Lars' manipulations

**Number of essential genes:**

Klebsiella pneumoniae Ecl8: 299

Escherichia coli ETEC CS17: 493

Enterobacter: 323

Klebsiella pneumoniae RH201207: 346

Escherichia coli ETEC H10407: 417

Escherichia coli UPEC: 323

Citrobacter: 311

Salmonella enteritidis: 248

Salmonella typhimurium SL1344: 405

Salmonella typhimurium D23580: 283

Salmonella typhimurium A130: 292

Salmonella typhi: 331

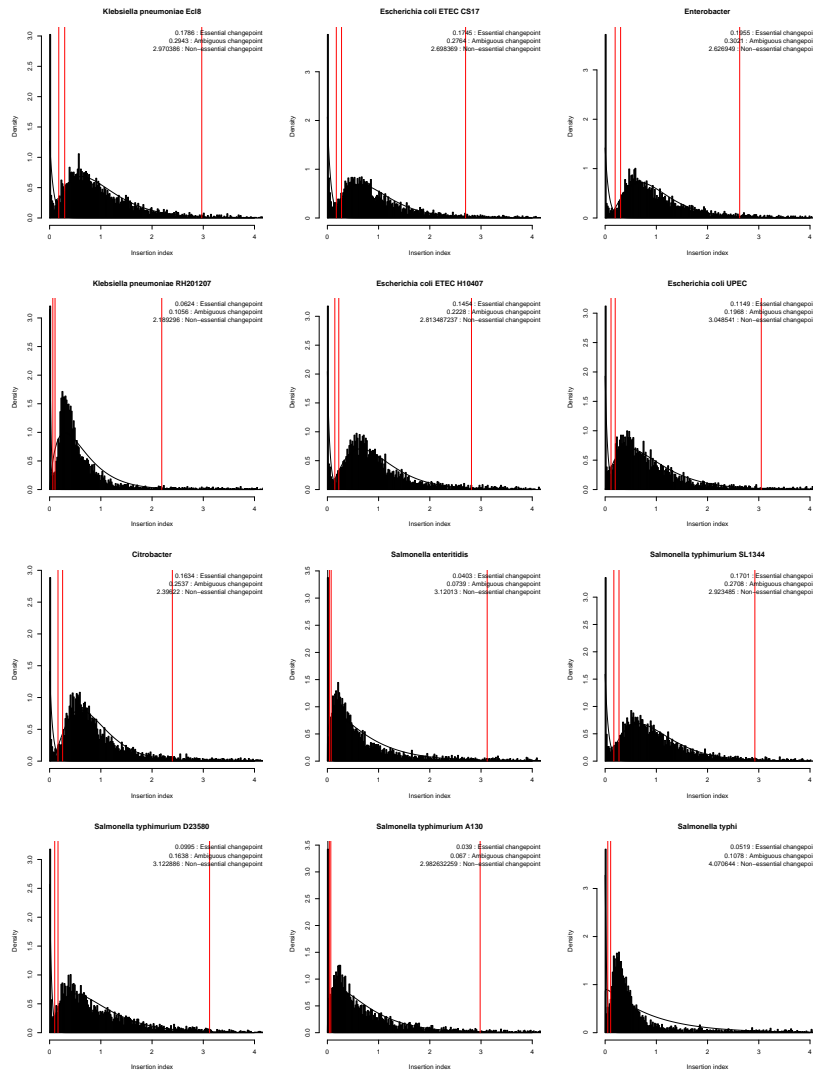


Figure 4:  $ii = \frac{\frac{reads(gene)}{length(gene)}}{\frac{reads(genome)}{length(genome)}}$

**Method:** Lars' method

**trimming:** 5 prime site: 5%, 3 prime site: 10%

**plot manipulations:** Lars' manipulations

**Number of essential genes:**

Klebsiella pneumoniae Ecl8: 322

Escherichia coli ETEC CS17: 528

Enterobacter: 351

Klebsiella pneumoniae RH201207: 387

Escherichia coli ETEC H10407: 429

Escherichia coli UPEC: 354

Citrobacter: 330

Salmonella enteritidis: 285

Salmonella typhimurium SL1344: 416

Salmonella typhimurium D23580: 333

Salmonella typhimurium A130: 357

Salmonella typhi: 361