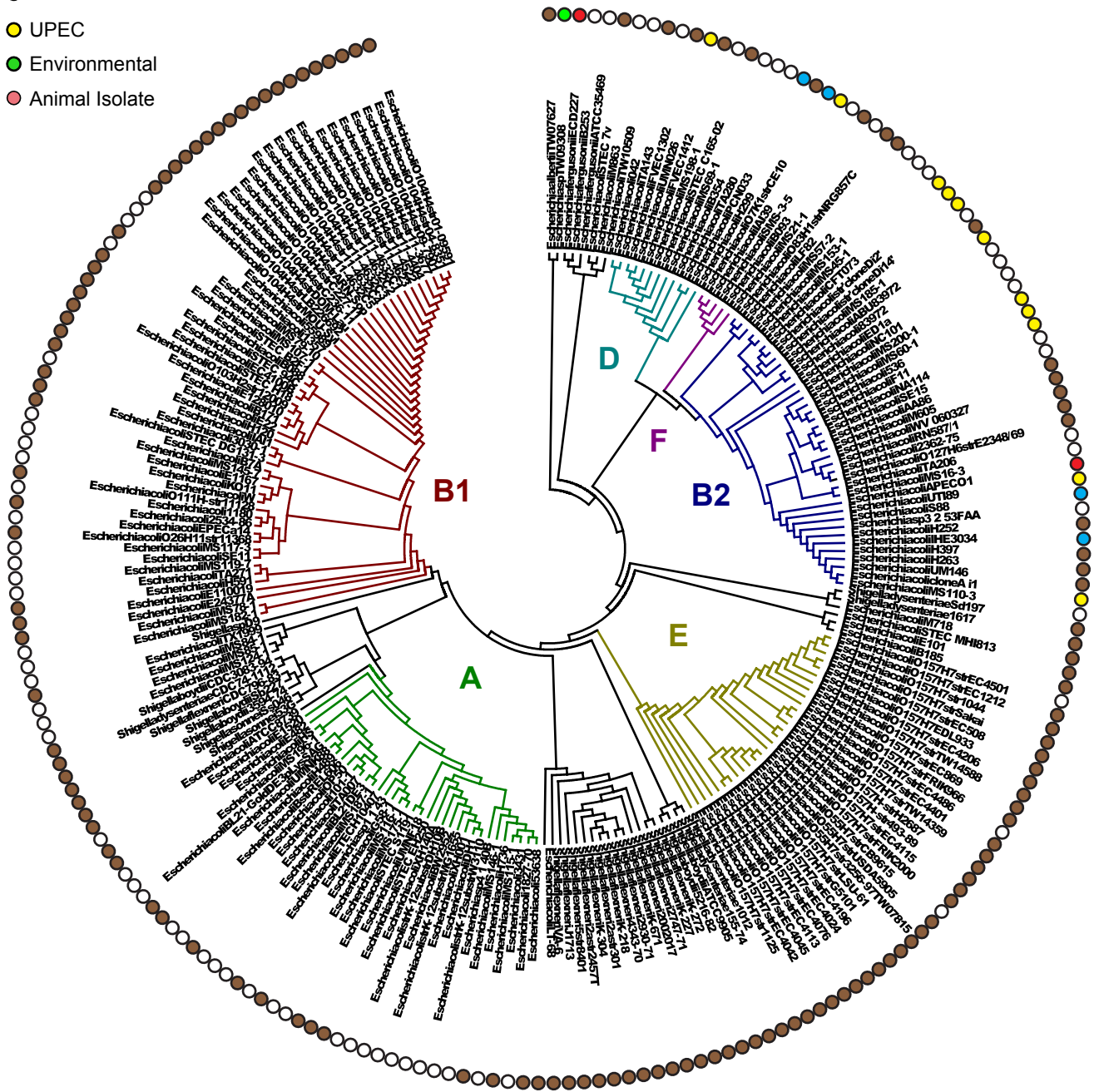
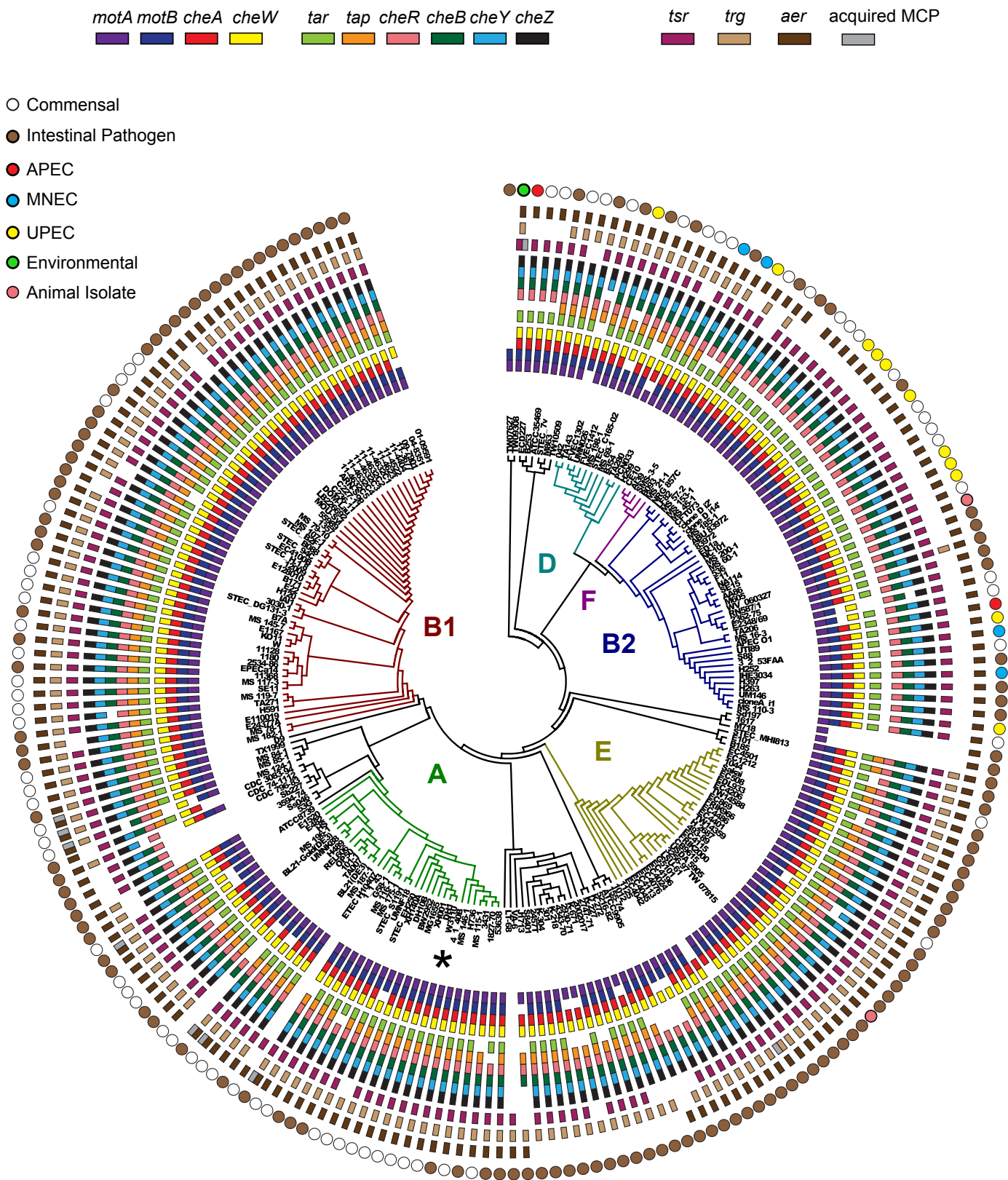


- Commensal
- Intestinal Pathogen
- APEC
- MNEC
- UPEC
- Environmental
- Animal Isolate



**Figure S1.** Phylogenetic tree of *Escherichia-Shigella*. A maximum-likelihood tree constructed from a concatenated alignment of *arcA*, *aroE*, *icd*, *mdh*, *mtlD*, *pgi*, and *rpoS* genes from 219 genomes. Branches are colored according to previously established phylogroups: A, B1, B2, D, E, and F.



**Figure S2.** Presence of chemotaxis genes in *Escherichia/Shigella* genomes. Full strain names and properties are listed in Supplementary Table 1. Phylogenetic relationships are shown in the center (a complete phylogenetic tree is shown on Figure S1). Branches are colored according to previously established phylotypes. *E. coli* K12 W3110 strain (model for chemotaxis) is marked with an asterisk.

**Table S1. *E. coli* genomes used in molecular clock analysis.**

<b>B2 group</b>	<b>A group</b>
Escherichia coli O83:H1 str. NRG 857C	Escherichia coli 53638
Escherichia coli MS 57-2	Escherichia coli MS 115-1
Escherichia coli MS 153-1	Escherichia coli H736
Escherichia coli MS 45-1	Escherichia coli MS 146-1
Escherichia coli CFT073	Escherichia sp. 4_1_40B
Escherichia coli str. 'clone D i2'	Escherichia coli str. K-12 substr. W3110
Escherichia coli str. 'clone D i14'	Escherichia coli DH1
Escherichia coli MS 185-1	Escherichia coli XH001
Escherichia coli ABU 83972	Escherichia coli str. K-12 substr. MG1655
Escherichia coli 83972	Escherichia coli BW2952
Escherichia coli ED1a	Escherichia coli XH140A
Escherichia coli NC101	Escherichia coli STEC_EH250
Escherichia coli MS 200-1	Escherichia coli UMNf18
Escherichia coli MS 60-1	Escherichia coli STEC_S1191
Escherichia coli 536	Escherichia coli MS 175-1
Escherichia coli F11	Escherichia coli MS 116-1
Escherichia coli NA114	Escherichia coli ETEC H10407
Escherichia coli SE15	Escherichia coli MS 187-1
Escherichia coli AA86	Escherichia coli BL21(DE3)
Escherichia coli M605	Escherichia coli 101-1
Escherichia coli WV_060327	Escherichia coli B str. REL606
Escherichia coli RN587/1	Escherichia coli H489
Escherichia coli 2362-75	Escherichia coli BL21-Gold(DE3)pLysS AG
Escherichia coli O127:H6 str. E2348/69	Escherichia coli MS 196-1
Escherichia coli APEC O1	Escherichia coli HS
Escherichia coli UTI89	Escherichia coli ATCC 8739
Escherichia coli S88	
Escherichia coli H252	
Escherichia coli IHE3034	
Escherichia coli H397	
Escherichia coli UM146	
Escherichia coli MS 110-3	