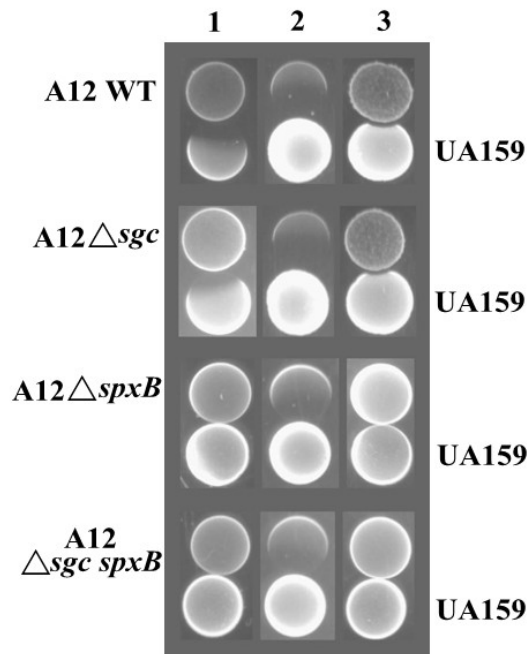
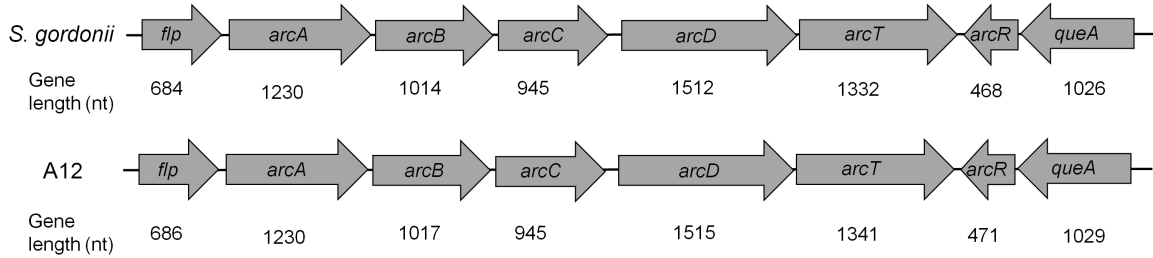


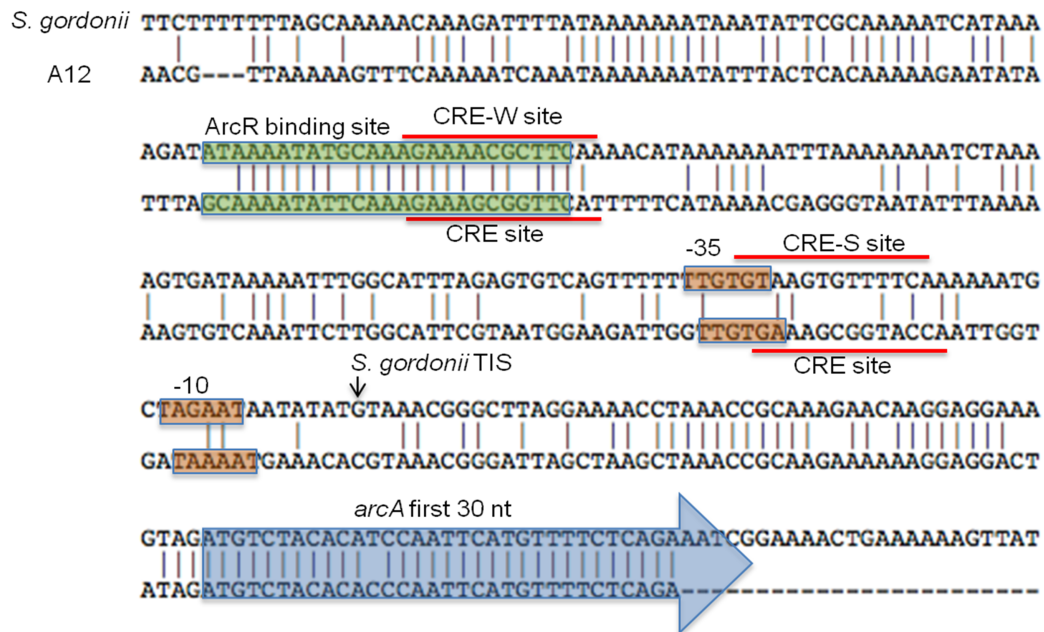
**Figure S1.** H<sub>2</sub>O<sub>2</sub> production during growth of A12 WT, A12Δ*sgc*, A12Δ*spxB*, and A12Δ*sgc spxB* in BHI broth. The cultures were grown to OD<sub>600</sub> = 0.3 and then shaken at 200 RPM for 30 min. H<sub>2</sub>O<sub>2</sub> concentration in the supernatant fluids was determined and normalized to OD<sub>600</sub>.



**Figure S2.** Competition between *S. mutans* UA159 and A12 WT, A12 $\Delta$ sgc, A12 $\Delta$ spxB, and A12 $\Delta$ sgc spxB on half-strength BHI agar plates. (1) The A12 strains were inoculated first, followed by inoculation of *S. mutans* 24 h later and an additional 24 h of incubation; (2) *S. mutans* was inoculated first, followed by inoculation of the A12 strains 24 h later, then an additional 24 h of incubation; and (3) A12 strains and *S. mutans* were inoculated at the same time and incubated for a total of 24 h.



	Flp	ArcA	ArcB	ArcC	ArcD	ArcT	ArcR	QueA
Identity (%)	63	97	99	97	78	75	83	85
Similarity (%)	82	98	99	99	86	85	92	92



**Figure S3. (A)** Schematic diagram of the ADS operons and flanking genes in *S. gordonii* DL1 and A12. **(B)** Sequence alignments and predicted functional *cis*-acting elements of the *S. gordonii* (top) and A12 (bottom) *arcA* promoter regions. The start codon for *arcA* and the first 30 bases of the structural gene are highlighted in blue. The *S. gordonii* transcriptional initiation site (TIS) was mapped previously by primer extension. The promoter (-35, -10) elements are highlighted in orange, as are putative CcpA binding (CRE, red lines) and ArcR binding (green highlights) sites.

**Table S1. Genome sequence details**

<b>Species</b>	<b>Source</b>	<b>Tissue/presentation</b>	<b>Accession #</b>
<i>S. anginosus</i> (1 2 62CV)	human	rectal biopsy	ADME01
<i>S. australis</i> (ATCC 700641)	human	saliva	AEQR01
<i>S. constellatus</i> subsp. <i>pharyngis</i> (SK1060)	human	throat	AFUP01
<i>S. cristatus</i> ATCC 51100	human	periodontal abscess	AEVC01
<i>S. gordonii</i> (Challis substr CH1 ATCC 35105)	human	blood/endocarditis valve	NC_009785
<i>S. infantis</i> (ATCC 700779)	human	tooth surface & pharynx	AEVD01
<i>S. intermedius</i> (F0413)	human	dental plaque	AFXO01
<i>S. mitis</i> (B6)	human	blood	NC_013853
<i>S. oralis</i> (Uo5)	human	oral cavity	NC_015291
<i>S. parasanguinis</i> (ATCC 15912)	human	oral cavity	NC_015678
<i>S. peroris</i> (ATCC 700780)	human	tooth surface & pharynx	AEVF01
<i>S. pneumoniae</i> (670 6B)	human	nasopharyngeal	NC_014498
<i>S. pseudopneumoniae</i> (IS7493)	human	sputum; HIV	NC_015875
<i>S. sanguinis</i> (SK36)	human	dental plaque	NC_009009