

Table S3. Locations of sampling stations, sample characteristics, and clone libraries constructed in this study

Vent <sup>a</sup>	Cruise/Dive #	Latitude	Longitude	Depth (m)	Sample type; Temperature <sup>b</sup> [H <sub>2</sub> S] <sup>c</sup>	Designations of <i>napA</i> libraries
Rainbow, MAR	R/V <i>Atlantis</i> Cruise AT 05-03 DSV <i>Alvin</i> Dive 3678	36° 14' N	33° 54' W	2305	Sulfide chimney; 158°C	MAR sulfide
<i>Alvinella</i> Pillar, EPR	R/V <i>Atlantis</i> Cruise AT 11-26 DSV <i>Alvin</i> Dive 4112	9° 50' N	104° 17' W	2500	Fluids; 40°C	EPR AP fluid
East Wall, EPR	R/V <i>Atlantis</i> Cruise AT 11-26 DSV <i>Alvin</i> Dive 4109	9° 50' N	104° 17' W	2500	Fluids; 25°C Max 175 μM <sup>c</sup>	EPR EW fluid
Mk 89, EPR	R/V <i>Atlantis</i> Cruise AT 11-26 DSV <i>Alvin</i> Dive 4102	9° 50' N	104° 17' W	2500	Bacterial filaments on Vexar plastic mesh; 2.5°C 0.2-32 μM <sup>c</sup>	EPR white filament

<sup>a</sup> EPR: East Pacific Rise; MAR: Mid-Atlantic Ridge

<sup>b</sup> Temperature of the hydrothermal fluid measured in-situ at the chimney orifice

<sup>c</sup> Data from Nees *et al*, 2008