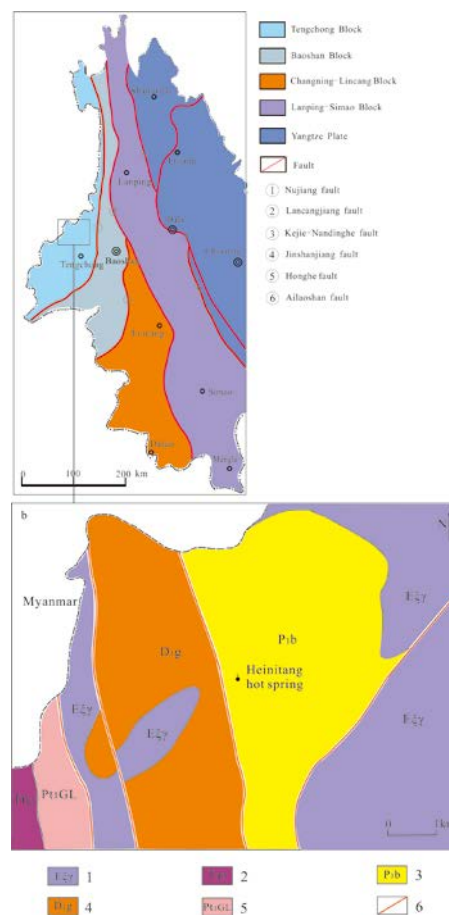
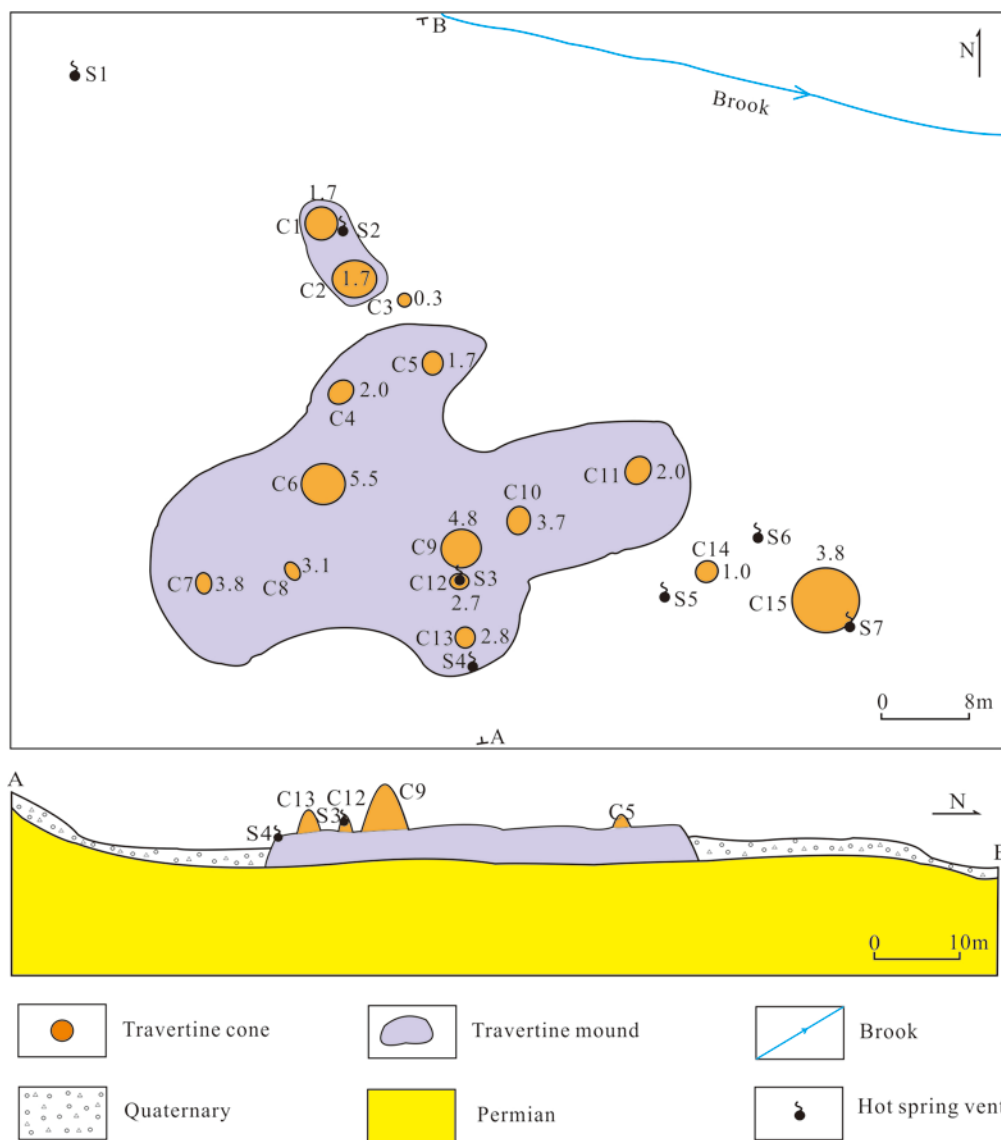


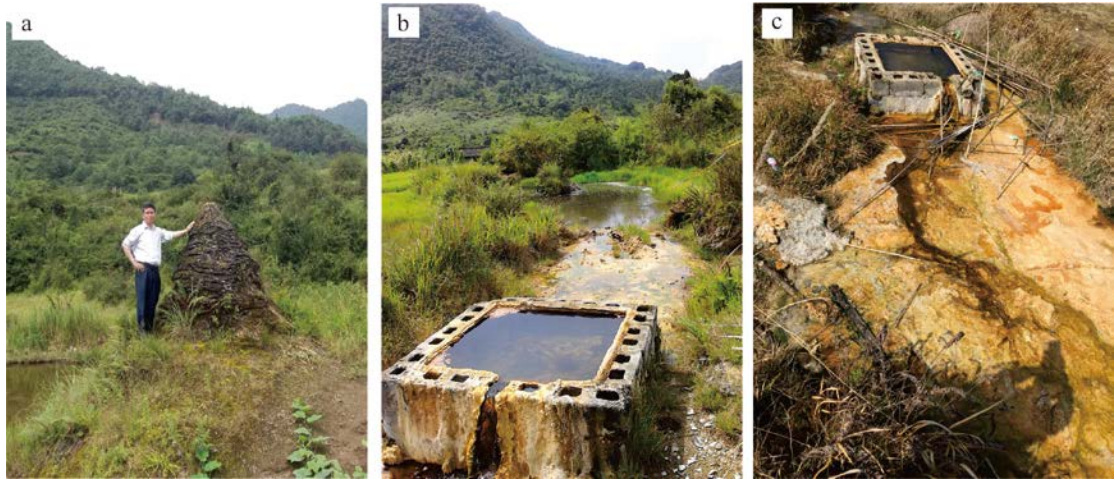
**Fig. 1.** The location of Yunnan and Tengchong (Adapted from National Geomatics center of China)



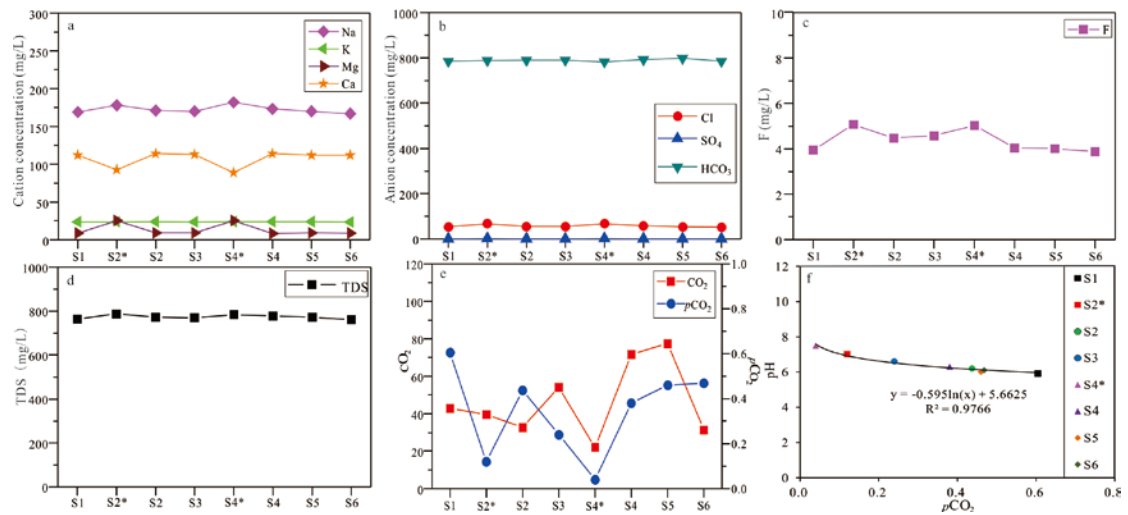
**Fig. 2.** (a) Simplified tectonic map of the area of western Yunnan and (b) the location of Heinitang hot spring (Adapted from Bureau of Geology and Mineral Resources of Yunnan Province, 1990) Legend: 1 Moyites of the Paleogene; 2 Monzonitic granite of the Triassic; 3 Sandstones of the Permian; 4 Argillic and carbonaceous slates of the Devonian; 5 Quartzites of the Proterozoic.



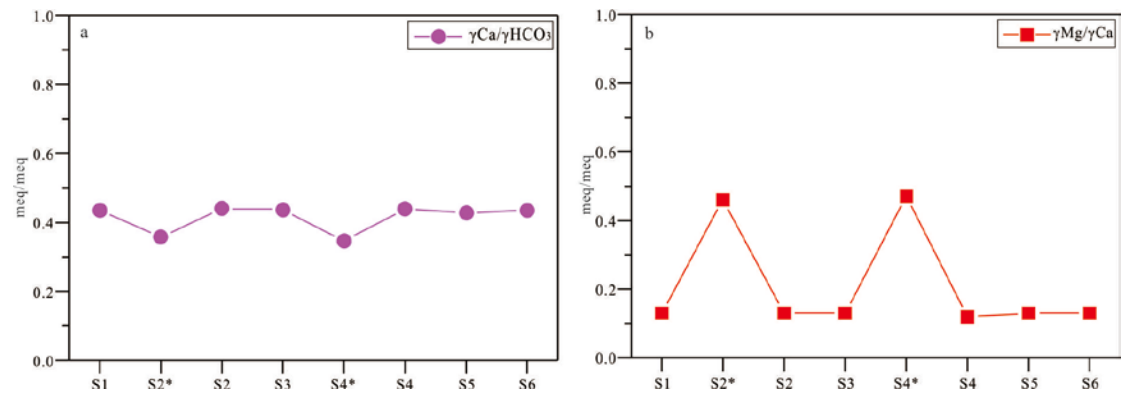
**Fig. 3.** Plan diagram and profile of the Heinitang hot springs with 2 travertine mounds and 14 cones. (The number is the height of the inactive travertine cone (m)).



**Fig. 4.** Field photographs of travertines: (a) The inactive travertine cone (C8); (b) Travertines near vent S2 in 2013 and (c) Travertines near S2 in 2018.



**Fig. 5.** (a) Cations, (b) anions, (c) F concentrations, (d) TDS, (e)  $\text{CO}_2$  concentration and  $p\text{CO}_2$  of the Heinitang hot water samples, (f) the relationship between pH and  $p\text{CO}_2$ .



**Fig. 6.** Ratios of  $\gamma\text{Ca}/\gamma\text{HCO}_3$  (a) and  $\gamma\text{Mg}/\gamma\text{Ca}$  (b).

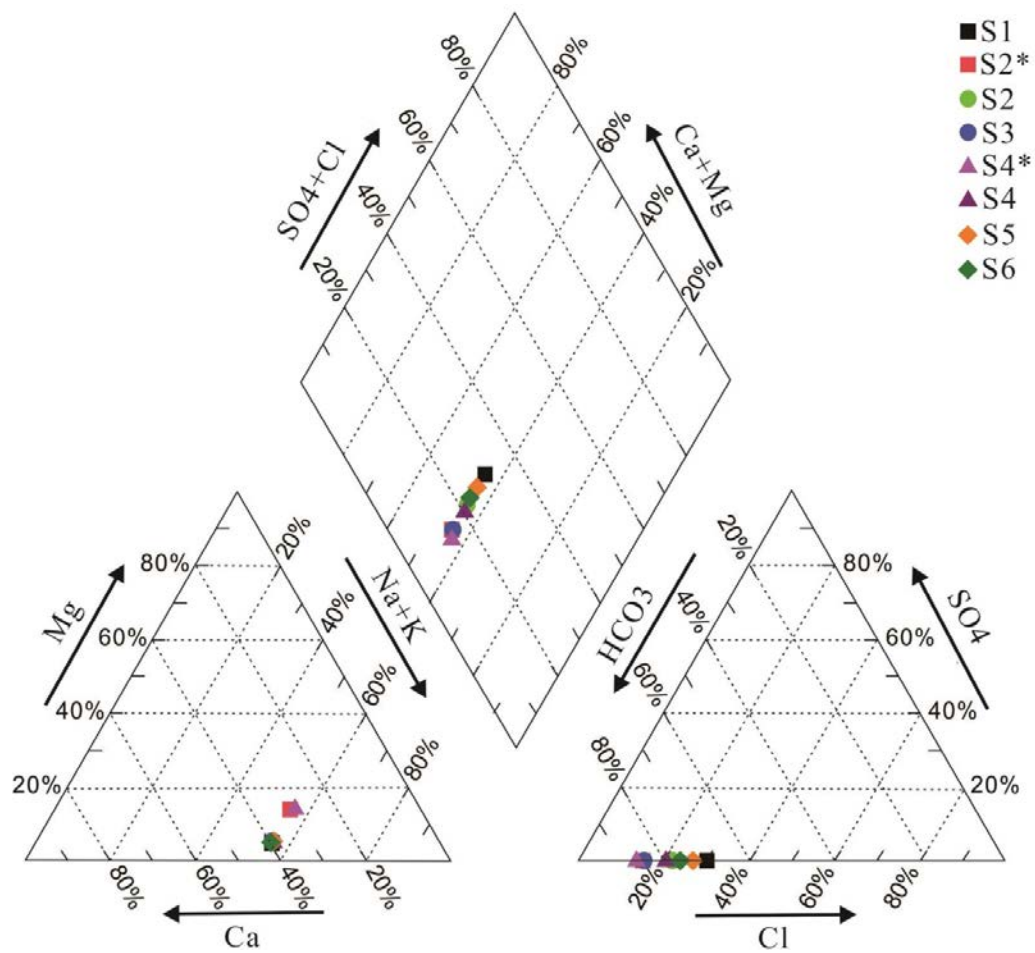


Fig. 7. Piper diagram showing the Heinitang hot spring samples.

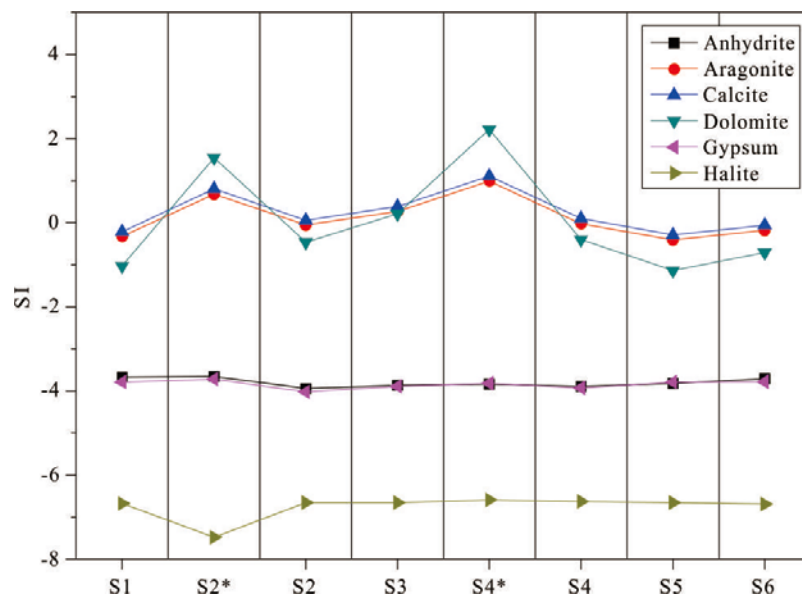
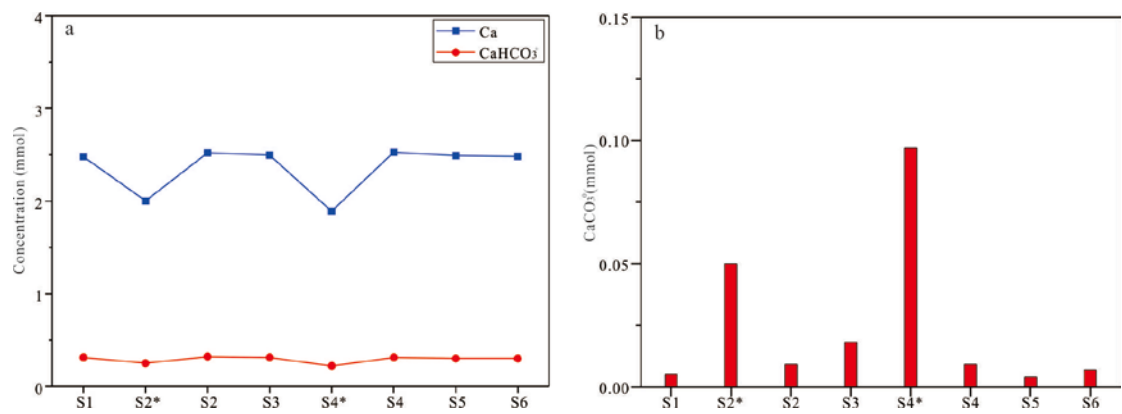
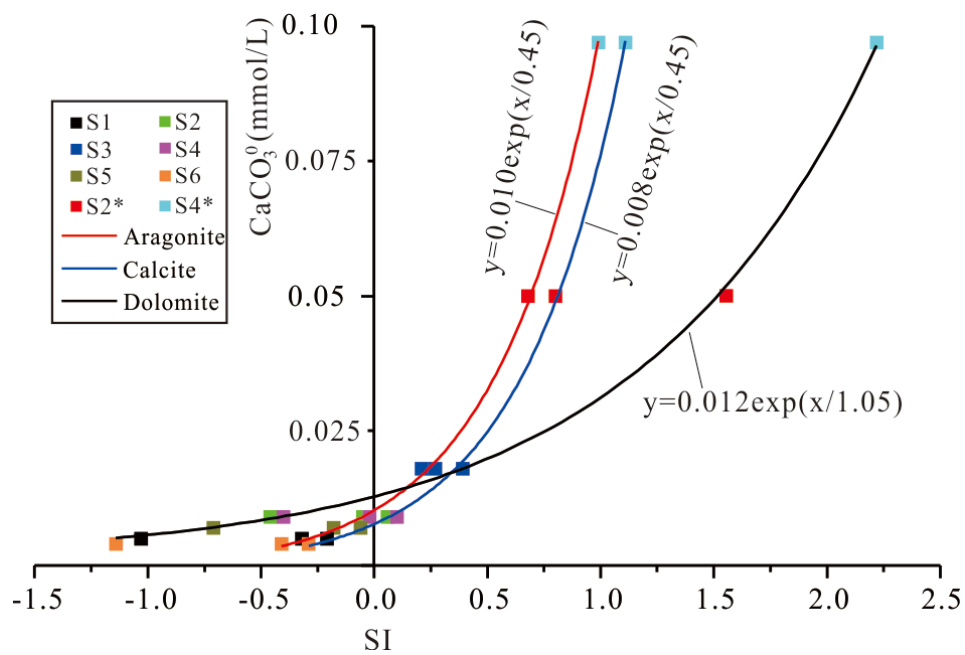


Fig. 8. SI values with respect to the anhydrite, aragonite, calcite, dolomite, gypsum and halite in the Heinitang hot spring samples.



**Fig. 9.** Concentrations of free Ca,  $\text{CaHCO}_3^+$  (a) and  $\text{CaCO}_3^0$  (b) of the Heinitang hot spring.



**Fig. 10.** Relationship between SIc, SIa, SIId values and  $\text{CaCO}_3^0$  in the water samples.