

Table S1. Descriptive statistics of the analysed chemical and isotopic parameters.

		Prof	T	PH	TDS	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺	Cl ⁻	NO ₃ ⁻	SO ₄ ²⁻	HCO ₃ ⁻	¹⁸ O	² H	³ H	¹⁴ C	¹³ C
		m	°C		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	‰ VSMOW	‰ VSMOW	TU	pmc	‰ V-PDB
Shallow aquifer 2005 (17 samples) [13]	Min.	5.7	12.9	7.0	789.4	103.2	0.0	18.2	101.5	178.6	0.0	67.0	250.1	-5.5	-30.8	2.5	39.0	-15.5
	Max.	31.9	19.4	7.9	4378.9	811.6	83.7	205.4	604.9	1794.8	383.0	707.6	610.0	-3.1	-22.0	4.5	119.4	-10.0
	Mean	16.2	16.5	7.4	2464.3	392.9	9.7	93.2	297.3	774.6	88.5	445.2	362.8	-4.6	-27.9	3.5	97.3	-13.1
	Std. dev	8.4	1.6	0.3	1025.8	208.6	22.2	53.9	128.7	431.1	96.3	222.2	92.7	0.7	2.7	0.7	21.8	1.5
Shallow Spring 2014 (26 samples) [11]	Min.	10.0	15.7	6.9	715.4	111.1	0.0	26.1	69.0	112.4	0.0	145.3	164.7	-5.4	-37.1	0.6		
	Max.	40.0	21.3	7.8	6357.5	1193.7	40.3	292.3	775.2	2932.4	514.7	759.6	481.9	-3.5	-20.8	5.6		
	Mean	23.6	18.2	7.2	2617.0	397.5	16.8	99.9	349.5	838.8	148.0	434.1	332.5	-4.6	-28.4	2.4		
	Std. dev	7.5	1.4	0.2	1110.9	220.0	10.7	54.2	156.8	534.1	140.9	165.0	75.8	0.5	3.2	1.2		
Deep Aquifer 2005 (32 samples) [18]	Min.	90.0	14.0	6.1	539.9	47.2	0.0	12.9	49.2	79.3	0.0	5.3	231.8	-6.0	-36.2		17.5	-14.4
	Max.	160.0	25.0	8.2	4542.8	889.4	27.2	239.5	556.0	1546.4	255.8	809.8	664.9	-3.5	-25.8		111.4	-8.9
	Mean	119.9	21.1	7.3	1583.1	248.9	8.1	56.3	167.9	455.9	49.9	228.6	367.5	-5.1	-31.1		68.9	-12.1
	Std. dev	19.6	2.0	0.4	858.0	179.4	6.8	42.7	99.4	323.4	58.9	210.0	99.3	0.6	2.3		26.3	1.4
Deep Spring 2 014 (25 samples) [11]	Min.	50.0	15.8	7.0	727.2	72.8	4.2	12.7	31.6	107.3	2.0	23.8	128.1	-6.1	-34.8	0.0		
	Max.	160.0	23.7	7.7	10177.4	1888.4	63.6	557.3	696.5	3436.0	230.6	3105.0	688.0	-4.5	-28.7	2.4		
	Mean	99.8	20.4	7.2	1801.5	275.9	16.1	89.7	181.8	473.3	55.7	383.0	321.3	-5.4	-31.8	1.0		
	Std. dev	32.1	1.4	0.2	1938.0	359.0	15.0	114.0	157.6	650.6	62.1	777.1	99.9	0.4	1.7	1.0		
Deep Aquifer 2017 (14 samples)	Min.	50.0	15.1	6.4	588.5	47.5	0.0	12.5	66.0	66.9	0.0	22.1	244.0	-6.1	-31.9	1.3	46.8	-13.1
	Max.	160.0	21.9	8.1	3113.1	634.0	22.8	153.5	336.8	1060.5	200.0	603.5	494.1	-4.9	-27.4	3.6	100.0	-11.1
	Mean	98.6	19.0	7.1	1504.6	209.4	8.0	66.1	187.7	406.1	81.7	194.5	351.1	-5.6	-30.3	2.0	77.9	-12.1
	Std. dev	29.3	1.9	0.4	664.9	148.3	5.4	36.4	85.3	257.6	68.8	165.2	61.6	0.3	1.3	0.8	16.1	0.6

Table S2. Chemical and isotopic composition of Grombalia deep aquifer (March 2017).

Sample	Depth (m)	T	pH	Cl	NO ₃	SO ₄	HCO ₃	Na	K	Mg	Ca	TDS	δ ² H	δ ¹⁸ O	³ H	¹⁴ C	δ ¹³ C
	m	°C		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	‰ VSMOW	‰ VSMOW	TU	pmc	‰ V-PDB
101	70	19.7	7.0	1060.5	6.0	603.5	401.6	634.0	0.0	153.5	254.0	3113.1	-31.6	-5.6	1.5	79.0	-11.6
104	100	19.4	7.0	554.5	195.3	188.8	305.0	227.7	9.0	45.3	324.5	1850.0	-29.0	-5.4	1.3	76.5	-11.9
105	50	19.6	7.0	299.6	158.6	109.0	323.3	119.0	8.2	33.8	222.0	1273.5	-29.8	-5.4	1.5	99.4	-12.0
110	90	19.8	7.1	600.0	200.0	295.3	359.9	259.5	9.0	79.0	336.8	2139.4	-29.5	-5.6	2.0	77.7	-12.0
112	120	19.0	7.1	542.0	136.0	261.5	359.9	335.0	10.8	79.8	191.3	1916.2	-27.4	-4.9	3.6	103.5	-12.3
113	120	20.8	7.2	302.2	0.0	79.8	494.1	177.6	5.6	69.4	91.4	1220.1	-31.6	-5.8	1.7	67.4	-12.8
114	120	15.1	7.3	484.5	0.0	363.0	372.1	240.7	22.8	81.3	235.3	1799.6	-29.7	-5.5	3.1	94.2	-13.1
115	100	21.2	6.5	150.3	63.3	139.5	298.9	100.3	6.7	54.5	92.6	906.1	-31.3	-5.7	0.0	70.4	-12.8
117	120	15.5	7.4	535.4	36.6	75.6	408.7	167.4	5.6	112.0	194.6	1535.9	-31.4	-5.9	1.3	63.4	-11.1
124	160	17.6	6.4	161.5	33.3	22.1	390.4	104.1	12.1	56.6	66.0	846.1	-31.7	-5.9	0.0	46.8	-13.0
125	70	19.0	7.2	168.6	78.1	38.4	305.0	82.3	3.3	12.5	159.0	847.2	-31.9	-6.1	1.7	91.8	-11.5
126	100	19.0	7.1	461.0	109.8	354.8	311.1	287.0	5.8	77.2	210.0	1816.7	-29.1	-5.2	1.4	82.9	-11.8
127	100	18.4	6.7	299.0	47.8	158.4	341.6	149.0	2.8	46.6	167.4	1212.6	-30.7	-5.4	1.2	55.1	-12.2
128	60	21.9	8.1	66.9	78.8	34.0	244.0	47.5	10.4	24.1	82.8	588.5	-30.4	-5.5	1.2	85.8	-11.5