

Table S3. Estimation results of the theoretical CO₂ storage capacity for the Sierpc structure in separate ten layers of the reservoir level.

No	Mean depth [m]	Geometric volume of layer V_{trap} [Mm ³]	Pressure P_i [MPa]	Temperature T [°C]	CO ₂ density in reservoir conditions ρ_{CO_2} [kg/m ³]	Theoretical Storage capacity M_{CSLF} [Mt CO ₂]	Brine initial density ρ_0 [kg/m ³]	CO ₂ saturate brine density ρ_s [kg/m ³]	Capacity of CO ₂ dissolved in water M_R [Mt CO ₂]
1	2091	179.24	21.01	59.91	739.48	14.16	1074.68	1343.35	0.20
2	2093	89.62	21.04	59.96	739.52	5.90	1074.66	1343.33	0.08
3	2096	239.17	21.06	60.02	739.57	18.74	1074.64	1343.30	0.26
4	2099	89.62	21.09	60.08	739.62	5.95	1074.62	1343.27	0.08
5	2101	209.20	21.12	60.13	739.67	14.80	1074.60	1343.25	0.21
6	2104	119.58	21.14	60.19	739.72	6.48	1074.58	1343.22	0.09
7	2108	388.44	21.19	60.28	739.79	27.73	1074.54	1343.18	0.39
8	2113	209.20	21.24	60.38	739.88	17.24	1074.50	1343.13	0.24
9	2120	627.33	21.31	60.53	740.01	43.10	1074.45	1343.06	0.61
10	2130	597.64	21.41	60.74	740.19	48.45	1074.37	1342.96	0.68
Total						202.55			2.86