

**Supplementary Table 2.** C and O isotope compositions of calcite from marly limestones of the Lower Kochumdek Subformation.

Sample	$\delta^{13}\text{C}_{\text{V-PDB}}$ , ‰	$\delta^{18}\text{O}_{\text{V-SMOW}}$ , ‰
Marly limestones (Stolbovaya River)		
RS-1-3	− 0.1	+ 22.7
RS-2-1	− 0.4	+ 22.3
RS-2-3	− 0.1	+ 23.8
Recrystallized marly limestones (Kochumdek River)		
PK-2	− 0.8	+ 22.8
PK-2	− 0.8	+ 23.3
PK-3-1	− 1.1	+ 22.8
PK-3-2	− 1.4	+ 22.7
PK-3-2	− 1.4	+ 22.8
PK-3-7	− 0.9	+ 22.9
PK-3B	− 0.4	+ 23.0
PK-4-1	− 0.6	+ 23.2
PK-4-3	− 0.6	+ 23.0
PK-4-7	− 0.7	+ 23.1
PK-4-7	− 0.7	+ 23.7
PK-6-1	− 0.7	+ 23.1
Average (n=12)	− 0.8	+ 23.0
<i>SD</i>	0.3	0.3
Min	− 1.4	+ 22.7
Max	− 0.4	+ 23.7

*Note.* n, number of analyses; *SD*, standard deviation; Min, minimum value; Max, maximum value. Analyses were carried out at the Analytical Center for multi-elemental and isotope research SB RAS.