

# Supplementary Material: Background Tests and Improvements at LAC-UFF Aiming at Sample Size Reduction in Foraminifera $^{14}\text{C}$ Measurement

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**Table S1:** pMC values (uncorrected) for regular-sized CA background samples using graphitization tubes stored in different conditions.

Sample Code	Lab	Storage Time	pMC	Uncertainty
190104	ANU	Prebaked/Immediately used	0.91	0.16
190103	ANU	Prebaked/Immediately used	0.86	0.16
190102	ANU	Prebaked/Immediately used	0.78	0.16
190101	ANU	7 days	0.95	0.16
190100	ANU	7 days	1.09	0.16
190099	ANU	7 days	0.71	0.16
190098	ANU	30 days	0.99	0.16
190097	ANU	30 days	1.07	0.16
190284	ANU	Non-prebaked GT	1.99	0.05
190285	ANU	Non-prebaked GT	2.19	0.04
190286	ANU	Non-prebaked GT	2.17	0.05

**Table S2:** Sample sizes and pMC results for all tested sample materials, using prebaked GT.

Sample Code	Lab	Type	Initial Mass (mg)	C (mg)	pMC	Uncertainty	Time to Measure
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	MPI-BGC	ER	1.10	0.098	Failed during measurement		
190385	LAC-UFF	ER	1.30	0.114	1.72	0.06	Immediately
190265	MPI-BGC	ER	3.20	0.263	1.02	0.04	4 months
190386	LAC-UFF	ER	3.30	0.225	1.02	0.03	Immediately
190266	MPI-BGC	ER	4.80	0.376	0.74	0.04	4 months
190387	LAC-UFF	ER	5.10	0.461	0.93	0.03	Immediately
190267	MPI-BGC	ER	6.90	0.574	0.89	0.04	4 months
190388	LAC-UFF	ER	6.90	0.353	0.98	0.03	Immediately
190268	MPI-BGC	ER	9.90	0.725	0.75	0.03	4 months
190389	LAC-UFF	ER	10.60	0.851	0.84	0.03	Immediately
190269	MPI-BGC	CA	1.10	0.155	2.11	0.09	2 months
190390	LAC-UFF	CA	1.00	0.060	3.97	0.14	Immediately
190270	MPI-BGC	CA	2.80	0.215	1.53	0.07	2 months
190391	LAC-UFF	CA	3.00	0.147	1.73	0.06	Immediately
190271	MPI-BGC	CA	5.00	0.483	1.08	0.08	2 months
190392	LAC-UFF	CA	4.80	0.364	1.17	0.04	Immediately
190272	MPI-BGC	CA	6.90	0.698	0.87	0.06	2 months
190393	LAC-UFF	CA	7.0	0.549	0.76	0.03	Immediately
190273	MPI-BGC	CA	10.10	0.880	0.74	0.03	2 months
190394	LAC-UFF	CA	10.2	0.808	0.96	0.03	Immediately
190538	LAC-UFF	C1	1.20	0.126	1.23	0.05	Immediately
190539	LAC-UFF	C1	3.10	0.296	0.84	0.04	Immediately
190541	LAC-UFF	C1	5.00	0.501	0.62	0.03	Immediately
190542	LAC-UFF	C1	7.20	0.676	0.61	0.02	Immediately
190543	LAC-UFF	C1	10.00	0.991	0.60	0.02	Immediately

**Table S3:** Sample sizes and pMC results for all tested sample materials, using non-prebaked GT.

Sample Code	Lab	Type	Initial Mass (mg)	C (mg)	pMC	Uncertainty	Time
190274	MPI-BGC	ER	1.10	0.114	14.2	0.56	4 months
190440	LAC-UFF	ER	1.40	0.149	4.01	0.06	Immediately
190275	MPI-BGC	ER	3.10	0.165	4.2	0.1	4 months
190441	LAC-UFF	ER	2.90	0.257	2.78	0.04	Immediately
190276	MPI-BGC	ER	5.00	0.334	2.36	0.06	4 months
190442	LAC-UFF	ER	5.10	0.537	1.55	0.03	Immediately
190277	MPI-BGC	ER	7.60	0.799	0.89	0.03	4 months
190443	LAC-UFF	ER	6.90	0.717	1.14	0.02	Immediately
190278	MPI-BGC	ER	10.20	0.883	0.97	0.03	4 months
190444	LAC-UFF	ER	10.50	1.103	0.97	0.02	Immediately
190279	MPI-BGC	CA	1.20	0.088	7.1	0.20	4 months
190445	LAC-UFF	CA	1.20	0.098	6.11	0.11	Immediately
190280	MPI-BGC	CA	3.10	0.252	2.52	0.07	4 months
190446	LAC-UFF	CA	3.10	0.303	2.01	0.03	Immediately

<b>190281</b>	MPI-BGC	CA	5.10	0.461	1.65	0.05	4 months
<b>190447</b>	LAC-UFF	CA	4.85	0.378	1.71	0.03	Immediately
<b>190282</b>	MPI-BGC	CA	7.10	0.683	1.20	0.04	4 months
<b>190448</b>	LAC-UFF	CA	6.96	0.566	1.22	0.03	Immediately
<b>190283</b>	MPI-BGC	CA	10.10	0.883	0.96	0.03	4 months
<b>190449</b>	LAC-UFF	CA	10.14	0.676	0.91	0.02	Immediately

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