

Water Sciences Laboratory

Analyte/Protocol Price List

2024



Nebraska Water Center

Daugherty Water for Food Global Institute

IRMS :: Water

Nebraska Water Center, a part of the
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Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p>$\delta^{18}\text{O}$ of Water by CO_2 Equilibration</p> <p>Protocol ID: 12_01_01_01</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 1,000 mg</p> </div> <p>Sample Container: 125 mL polyethylene bottle Sample Size: 20 mL Preservation: Cool, < 6°C Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p> <p>References: Hsieh, Jean C. C. Savin, Samuel M. Kelly, Eugene F. Chadwick, Oliver A. (1998), "Measurement of soil-water $\delta^{18}\text{O}$ values by direct equilibration with CO_2", <i>Geoderma</i> 82, 255-268.</p> <p>Epstein, S. and Mayeda, T. (1953), "Variation of O^{18} content of waters from natural sources", <i>Geochimica et Cosmochimica Acta</i> 4, 213-224.</p>	$\delta^{18}\text{O}\text{-H}_2\text{O_SMOW}$		\$28.90	\$23.12
<p>$\delta^{13}\text{C}$ in Total Organic Carbon</p> <p>Protocol ID: 12_01_01_11</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 0.05 mg</p> </div> <p>Sample Container: 12 mL Exetainer Sample Size: 100 mL Preservation: Cool, < 6°C Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p>	$\delta^{13}\text{C}$ (‰)		\$17.30	\$13.84

Turnaround times are subject to existing sample queues Reporting Limits are subject to verification

Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p>Reference: Lang, Susan Q.;Bernasconi, Stefano M.; Fruh-Green, Gretchen L. (2012), "Stable isotope analysis of organic carbon in samll samples and DOM using gasbench preparation device", <i>Rapid Communications in mass spectrometry</i> 26, 9-16.</p>				
<p>$\delta^{18}\text{O}$ in Phosphate Protocol ID: 12_03_01_08</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 0.2 mg-P</p> </div> <p>Sample Container: 1 L polyethylene bottle Sample Size: 1000 mL Preservation: Cool, < 6°C Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p> <p>Reference: McLaughlin, K.; Silva, S.; Kendall, C.; Stuart-Williams, H.; Paytan, A. (2004), "A Precise Method for the Analysis of ^{18}O of Dissolved Inorganic Phosphate in Seawater", <i>Limnology and Oceanography</i>: <i>Methods</i> 2, 202-212.</p>	<p>$\delta^{18}\text{O}$ in PO4</p>		<p>\$98.20</p>	<p>\$78.56</p>
<p>Deuterium in Water Protocol ID: 12_04_01_02</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 1,000 mg</p> </div> <p>Sample Container: 125 mL polyethylene bottle Sample Size: 20 mL Preservation: Cool, < 6°C Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p> <p>Reference: J. Morrison T. Brockwell T. Merren F. Fourel A. M. Phillips (2001), "On-Line High-Precision Stable Hydrogen Isotopic Analyses on Nanoliter Water Samples", <i>Analytical Chemistry</i> 73, 3570-3575.</p>	<p>$\delta\text{D-H}_2\text{O_SMOW}$</p>		<p>\$28.90</p>	<p>\$23.12</p>

Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p>$\delta^{18}\text{O}$ and $\delta^{15}\text{N}$ in Nitrate using Titanium Trichloride Reduction Protocol ID: 12_06_01_08</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 0.00005 mg</p> </div> <p>Sample Container: 125 mL polyethylene bottle Sample Size: 125 mL Preservation: Frozen Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p> <p>Reference: Altabet M. A.; Wassenaar L. I.; Douence C.; Roy R. (2019), "A Ti(III) reduction method for one-step conversion of seawater and freshwater nitrate into N₂O for stable isotopic analysis of ¹⁵N/¹⁴N, ¹⁸O/¹⁶O and ¹⁷O/¹⁶O", <i>Rapid Commun. Mass Spectrom.</i> 33, 1227-1239.</p>	<p>$\delta^{15}\text{N}$ $\delta^{18}\text{O}$</p>		<p>\$100.00</p>	<p>\$80.00</p>
<p>$\delta^{18}\text{O}$ and $\delta^{15}\text{N}$ in Nitrate using Titanium Trichloride Reduction (Enriched) Protocol ID: 12_06_01_09</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Minimum elemental mass required for analysis = 0.00005 mg</p> </div> <p>Sample Container: 125 mL polyethylene bottle Sample Size: 125 mL Preservation: Frozen Holding Time: 60 Days Estimated Turnaround Time: 6-8 Weeks</p> <p>Reference: Altabet M. A.; Wassenaar L. I.; Douence C.; Roy R. (2019), "A Ti(III) reduction method for one-step conversion of seawater and freshwater nitrate into N₂O for stable isotopic analysis of ¹⁵N/¹⁴N, ¹⁸O/¹⁶O and ¹⁷O/¹⁶O", <i>Rapid Commun. Mass Spectrom.</i> 33, 1227-1239.</p>	<p>$\delta^{15}\text{N}$ $\delta^{18}\text{O}$</p>		<p>\$120.00</p>	<p>\$96.00</p>