



Total Organic Carbon (TOC) Measurement of Low Concentrations by

TRLI-OnlineTOC150

1. Introduction

In this study, the TRLI-OnlineTOC150 analyzer was tested for low concentrations. TRLI-OnlineTOC150 operating performance at low concentrations are a very important. Details on the repeatability of the assay are presented below.

Sample Description: Synthetic Water Sample (with KHP) - Liquid

2. Experimental Conditions

Synthetic water samples carrying about 97.5 ppm TOC are prepared to check performance of TRI-OnlineTOC150.

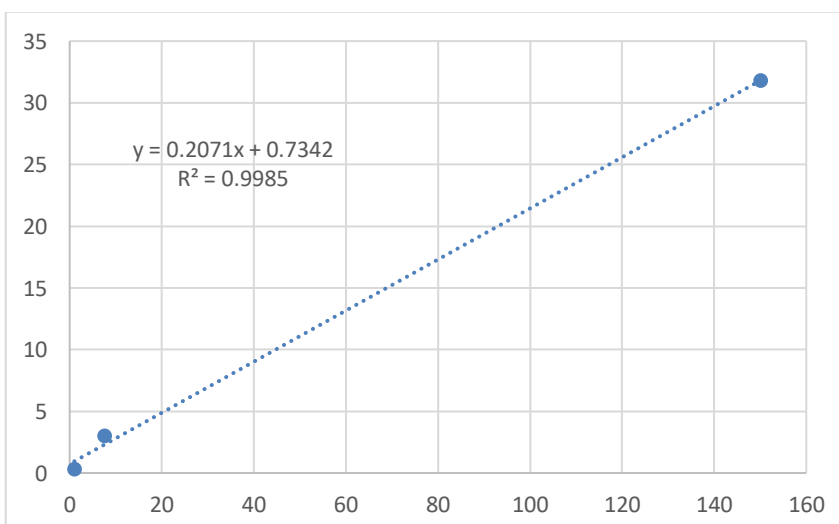
Parametre	Value
Decomposition Zone Temp.	900 °C
Catalytic Zone Temp.	750 °C
Air Pressure	1.5 bar
Carrier Gas Flow Rate	250 mL/min

3. Calibration

Calibration is done according to the solution having below specification and calibration curve is represented. Calibration was made with 3 points with 1-7.5 and 150 ppm.

Standart Name	Standart Concentration
KHP	150 ppm

Calibration Equation (TC)	R ²
$y = 0.2071x + 0.7342$	0.9985





4. Results

The results of the validation study are given below.

Table 1: 97.5 ppm Validation Results				
Repeat Number	Sample Size (mL)	TOC Result (ppm)	TOC Average (ppm)	RSD (%)
1	0.5	97.38	97.34	1.05
2	0.5	98.86		
3	0.5	97.12		
4	0.5	96.01		

5. Conclusion

In this study, a method study was carried out with KHP solution in the range of 0-150 ppm and a linear calibration was obtained. As seen in the table above, studies carried out with 97.5 ppm solution a high repeatability proved to be achieved at 97.5 ppm with the TRL-OnlineTOC150 analyzer.