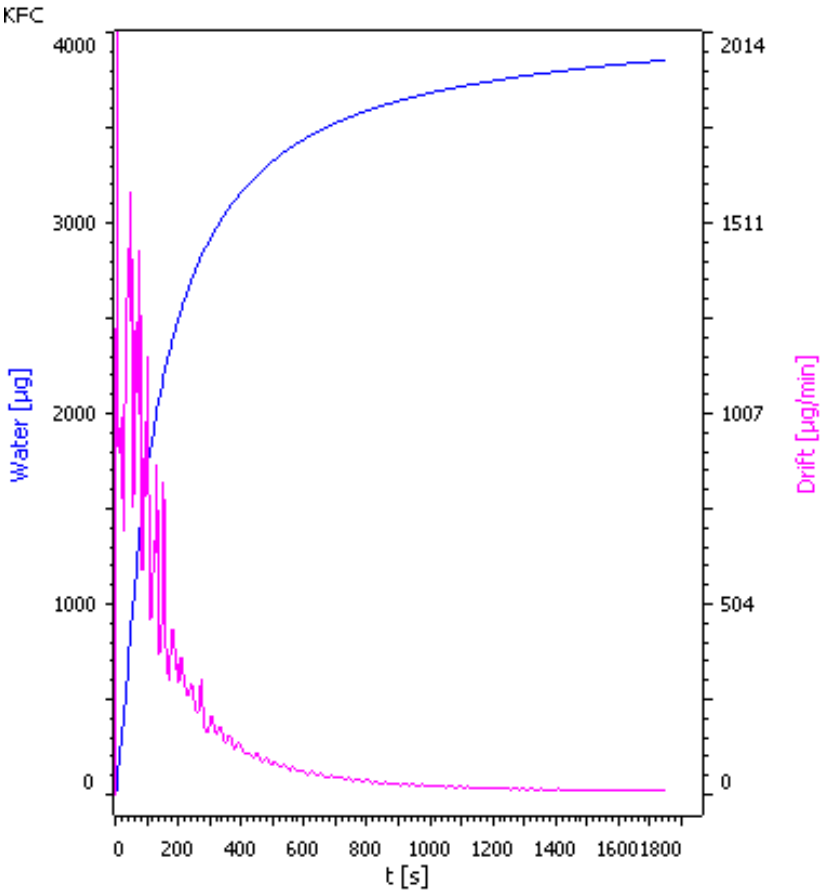
KF Application Note K–50

Determination of the water content in gelatine with 885 Compact Oven Sample Changer and 899 Coulometer



This Application Note describes the determination of the water content in gelatine using the oven technique.

Metrohm

Method description

Sample

Gelatine (leaves)

Sample preparation

The sample was cut into small pieces and approximately 40 mg were weighed into the sample vial, tightly closed with the cap and placed on the rack of the 885 Compact Oven Sample Changer.

Electrodes

Double Pt-wire electrode	6.0341.100
Generator electrode without diaphragm	6.0345.100

Solutions

HYDRANAL®-Coulomat AG Oven	Fluka 34739

Instrumentation

885 Compact Oven Sample Changer	2.885.0010
899 Coulometer	2.899.0010
Remote cable	6.2141.390

Analysis

All measurements were carried out at the same temperature using the same parameters.

After starting the sample series, the Sample Changer moves to the conditioning vial, the needle pierces the septum, the gas flow is started and the titration vessel is conditioned. Then a determination with an empty sample vial is carried out to prepare the system and rinse all tubing. Following the system preparation, three blank values (empty sample vials) are determined and the mean value of the blank is saved as common variable. This value is subtracted from the EP of the sample determination. Subsequently, the water content of the samples is determined. Between two sample measurements, the titration vessel is conditioned again.

Parameters 899 Coulometer

Conditioning	on
Start drift	10 µg/min
Drift correction	auto
Automatic start	off
Stabilizing time	10 s
Cond. stop time	off
Measured value display	off
Pause	0 s
Request sample ID	off
Request sample size	off
Request sample unit	off
Hold at request	off
Endpoint at	50 mV
Titration rate	optimal
Stop criterion	rel. drift
Relative stop drift	10 µg/min
Extraction time	120 s
Generator electrode	without diaphragm
Generator current	400 mA
Stirrer	on
Stirring rate	15
I(pol)	10 µA
Electrode test	off
Time interval MP	2 s
Temperature	25 °C
Stop time	off

Parameters 885 Compact Oven Sample Changer

Temperature	150 °C
Flow rate	50 mL/min
Gas supply	valve
Gas type	nitrogen
End of series	conditioning

Results

Mean (n = 10) [mg/g]	RSD [%]
113.0	0.67