

Supplementary Table S1. Short-term and long-term stability results.

MRPH				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	96.3	95.4
	Plasma	4 months	97.8	92.3
Bench-top	Liver	2 h	104.4	113.6
		4 h	92.5	112.1
		24 h	110.9	89.7
	Plasma	2 h	102.8	109.9
		4 h	107.4	108.5
		24 h	104.0	94.0
Autosampler	Liver	24 h	102.0	97.9
	Plasma	24 h	93.3	95.3
Freeze-thaw	Liver	2 cycles	91.3	92.4
	Plasma	2 cycles	94.2	95.3
O-MRPH				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	95.1	91.7
	Plasma	4 months	96.3	93.6
Bench-top	Liver	2 h	99.0	105.0
		4 h	92.9	97.1
		24 h	88.9	102.6
	Plasma	2 h	98.6	97.1
		4 h	103.1	100.8
		24 h	110.8	99.4
Autosampler	Liver	24 h	93.3	86.6
	Plasma	24 h	108.4	88.6
Freeze-thaw	Liver	2 cycles	92.6	95.2
	Plasma	2 cycles	93.7	89.9
H-MRPH				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	98.2	96.4
	Plasma	4 months	97.5	98.6
Bench-top	Liver	2 h	104.7	101.8
		4 h	107.2	108.4
		24 h	90.3	100.0
	Plasma	2 h	98.2	101.8
		4 h	98.3	108.4

		24 h	108.5	99.4
Autosampler	Liver	24 h	94.5	97.4
	Plasma	24 h	108.4	94.9
Freeze-thaw	Liver	2 cycles	90.1	89.8
	Plasma	2 cycles	94.2	92.0
O-COD				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	101.2	96.3
	Plasma	4 months	98.3	94.7
Bench-top	Liver	2 h	103.3	106.7
		4 h	103.8	105.2
		24 h	95.7	111.8
	Plasma	2 h	105.3	97.7
		4 h	103.6	98.2
		24 h	97.0	94.3
Autosampler	Liver	24 h	95.9	100.0
	Plasma	24 h	94.6	87.9
Freeze-thaw	Liver	2 cycles	95.3	96.0
	Plasma	2 cycles	97.2	98.1
H-COD				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	99.8	94.1
	Plasma	4 months	97.7	98.3
Bench-top	Liver	2 h	108.0	96.7
		4 h	89.5	105.8
		24 h	95.0	109.2
	Plasma	2 h	98.4	112.3
		4 h	96.8	106.4
		24 h	97.3	101.6
Autosampler	Liver	24 h	101.7	112.2
	Plasma	24 h	91.8	101.7
Freeze-thaw	Liver	2 cycles	94.1	95.6
	Plasma	2 cycles	92.3	93.1
FENTANYL				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	93.0	99.1
	Plasma	4 months	95.9	94.2
Bench-top	Liver	2 h	98.6	91.9

		4 h	101.7	92.3
		24 h	103.7	87.1
		2 h	99.4	103.5
	Plasma	4 h	103.5	112.5
		24 h	97.3	100.0
Autosampler	Liver	24 h	100.1	87.1
	Plasma	24 h	95.3	94.5
Freeze-thaw	Liver	2 cycles	93.0	91.5
	Plasma	2 cycles	95.7	96.1
METHADONE				
Condition	Tissue	Timing	QC H (% acc.)	QC L (% acc.)
Long-term -80°C	Liver	4 months	100.3	96.0
	Plasma	4 months	98.1	91.6
Bench-top	Liver	2 h	99.8	88.4
		4 h	88.2	87.3
		24 h	97.3	103.2
	Plasma	2 h	103.0	104.3
		4 h	112.6	105.1
		24 h	99.0	99.1
Autosampler	Liver	24 h	101.4	107.5
	Plasma	24 h	94.9	88.7
Freeze-thaw	Liver	2 cycles	94.5	96.2
	Plasma	2 cycles	98.3	95.1