Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

Supporting Information

Injectable Biodegradable Polymeric System for Preserving the Active form and Delayed-Release of Camptothecin Anticancer Drugs

Olcay Mert, Güneş Esendağlı, A. Lale Doğan, Ayhan S. Demir*

Tables and Figures..... 2

Copy of HPLC spectra 7

Copy of ^{1}H NMR spectra …….....61

This journal is © The Royal Society of Chemistry 2011

Table 1 Lactone Conversion of free CPT via FL

Time (min)	**$I(\lambda_1)$**	**$I(\lambda_2)$**	**R**	**R_L**	**R_C**	**$I_L(\lambda_2)$**	**$I_C(\lambda_2)$**	**L %**	**C %**
0	206	60	3.43	3.43	2.18	60	264	99.91	0.09
20	269	92	2.92	3.43	2.18	60	264	86.40	13.60
40	324	121	2.69	3.43	2.18	60	264	75.13	24.87
60	373	145	2.57	3.43	2.18	60	264	66.53	33.47
80	418	168	2.50	3.43	2.18	60	264	59.77	40.23
100	454	186	2.45	3.43	2.18	60	264	54.50	45.50
120	486	202	2.41	3.43	2.18	60	264	49.26	50.74
140	511	216	2.37	3.43	2.18	60	264	44.28	55.72
160	533	226	2.36	3.43	2.18	60	264	42.28	57.72
180	552	237	2.33	3.43	2.18	60	264	38.21	61.79
200	567	246	2.31	3.43	2.18	60	264	33.72	66.28
220	578	251	2.31	3.43	2.18	60	264	32.91	67.09
240	586	255	2.30	3.43	2.18	60	264	32.35	67.65
260	594	259	2.30	3.43	2.18	60	264	31.42	68.58
280	599	261	2.29	3.43	2.18	60	264	30.45	69.55
300	601	263	2.29	3.43	2.18	60	264	29.70	70.30
310	601	264	2.28	3.43	2.18	60	264	26.91	73.09

This journal is © The Royal Society of Chemistry 2011

Table 2 Lactone Conversion of free TPT via FL

Time (min)	**$I(\lambda_1)$**	**$I(\lambda_2)$**	**R**	**R_L**	**R_C**	**$I_L(\lambda_2)$**	**$I_C(\lambda_2)$**	**L %**	**C %**
0	560	115	4.87	4.86	5.41	115	79	97.77	2.23
20	549	112	4.91	4.86	5.41	115	79	87.14	12.86
40	535	109	4.91	4.86	5.41	115	79	86.71	13.29
60	526	106	4.95	4.86	5.41	115	79	78.59	21.41
80	517	104	4.95	4.86	5.41	115	79	77.21	22.79
100	506	101	4.98	4.86	5.41	115	79	70.24	29.76
120	498	100	4.99	4.86	5.41	115	79	69.63	30.37
140	491	98	5.02	4.86	5.41	115	79	62.17	37.83
160	484	96	5.02	4.86	5.41	115	79	61.90	38.10
180	478	95	5.04	4.86	5.41	115	79	57.91	42.09
200	471	93	5.07	4.86	5.41	115	79	52.47	47.53
220	464	91	5.09	4.86	5.41	115	79	49.72	50.28
240	455	89	5.10	4.86	5.41	115	79	47.39	52.61
260	445	87	5.13	4.86	5.41	115	79	41.24	58.76
280	432	84	5.14	4.86	5.41	115	79	40.38	59.62
300	419	81	5.17	4.86	5.41	115	79	33.95	66.05
310	413	79	5.20	4.86	5.41	115	79	30.29	69.71

This journal is © The Royal Society of Chemistry 2011

Table 3 CPT in gel, 0.015 % loading via FL

Time(min)	$I(\lambda_1)$	$I(\lambda_2)$	R	R_L	R_C	$I_L(\lambda_2)$	$I_C(\lambda_2)$	L %	C %
0	138.60	58.80	2.36	2.39	2.07	58.80	121.00	94.73	5.27
85	75.60	31.96	2.37	2.39	2.07	31.96	71.00	96.40	3.60
175	226.40	94.60	2.39	2.39	2.07	94.60	194.00	100.49	-0.49
260	185.60	77.50	2.39	2.39	2.07	77.50	165.00	100.70	-0.70
310	307.39	129.00	2.38	2.39	2.07	129.00	277.00	98.95	1.05

Table 4 TPT in gel, 0.015 % loading via FL

Time(min)	$I(\lambda_1)$	$I(\lambda_2)$	R	R_L	R_C	$I_L(\lambda_2)$	$I_C(\lambda_2)$	L %	C %
0	246.0	84.4	2.91	2.89	3.7	84.4	68	96.24	3.76
85	232.2	79.5	2.92	2.89	3.7	79.5	65	95.40	4.60
175	268.5	92.2	2.91	2.89	3.7	92.2	73	96.57	3.43
260	253.8	87.8	2.89	2.89	3.7	87.8	71	99.90	0.10
310	529.2	181	2.92	2.89	3.7	181	144	94.82	5.18

This journal is © The Royal Society of Chemistry 2011

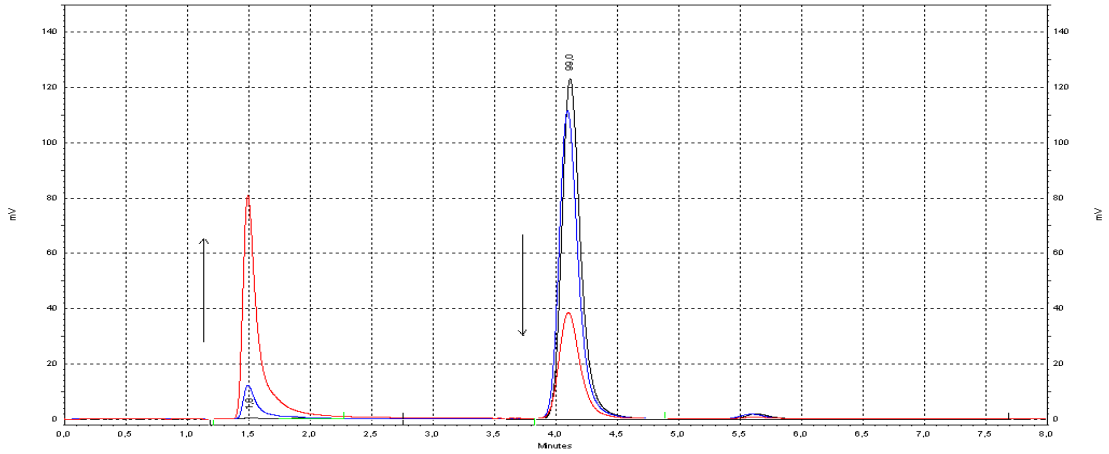


Figure 1 HPLC Chromatograms of the conversion of lactone to carboxylate of free CPT with time elapsed.

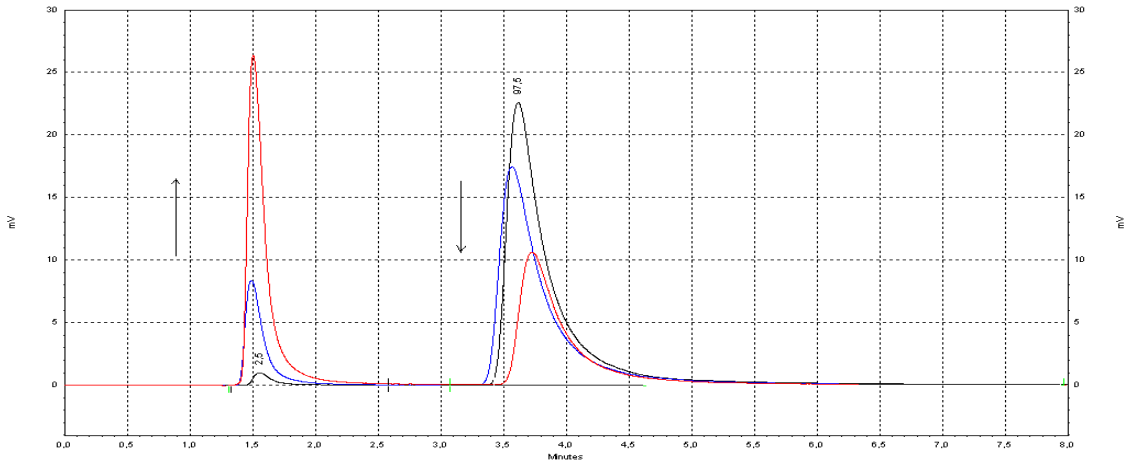


Figure 2 HPLC Chromatograms of the conversion of lactone to carboxylate of TPT with time elapsed.

This journal is © The Royal Society of Chemistry 2011

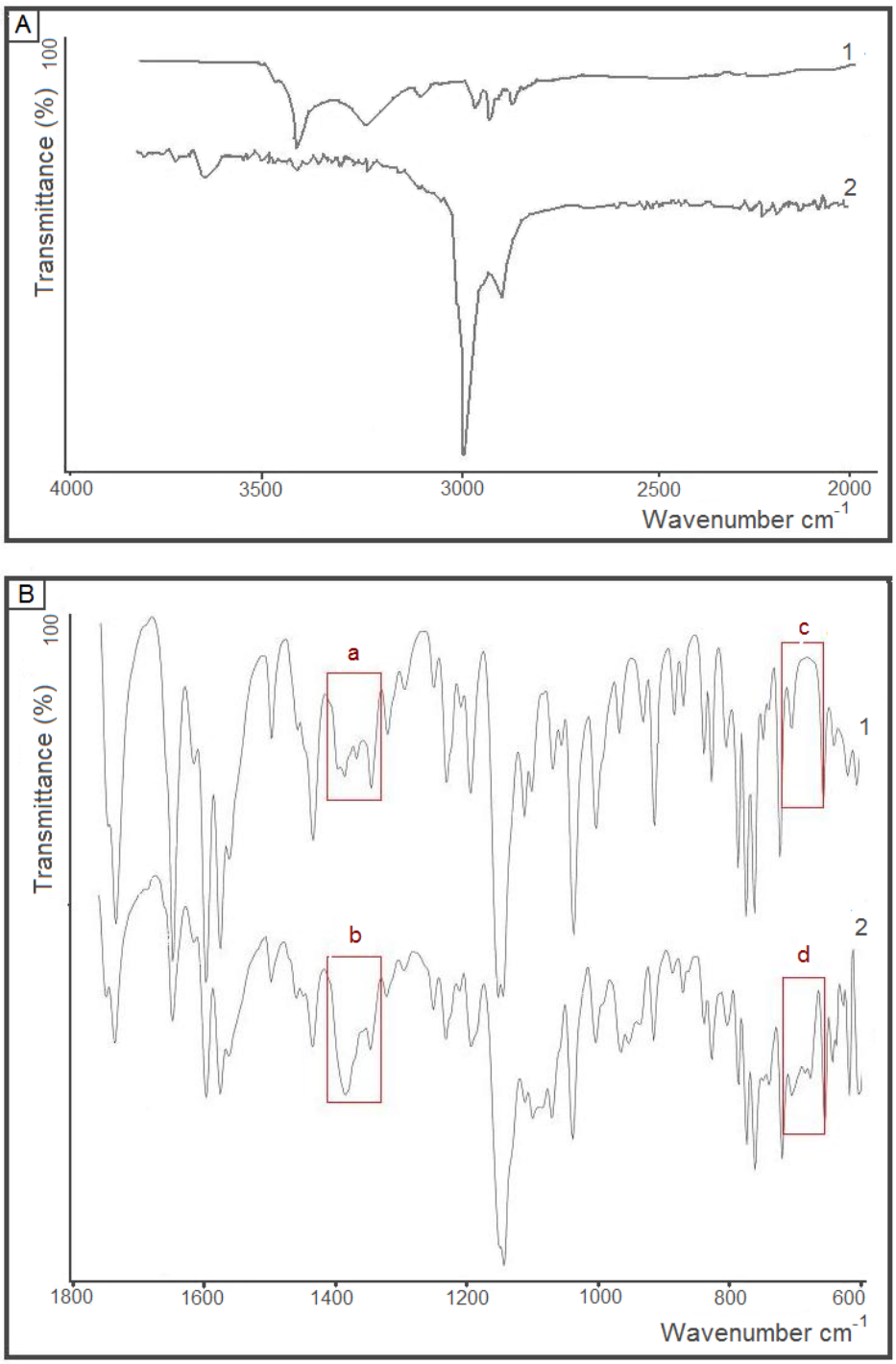
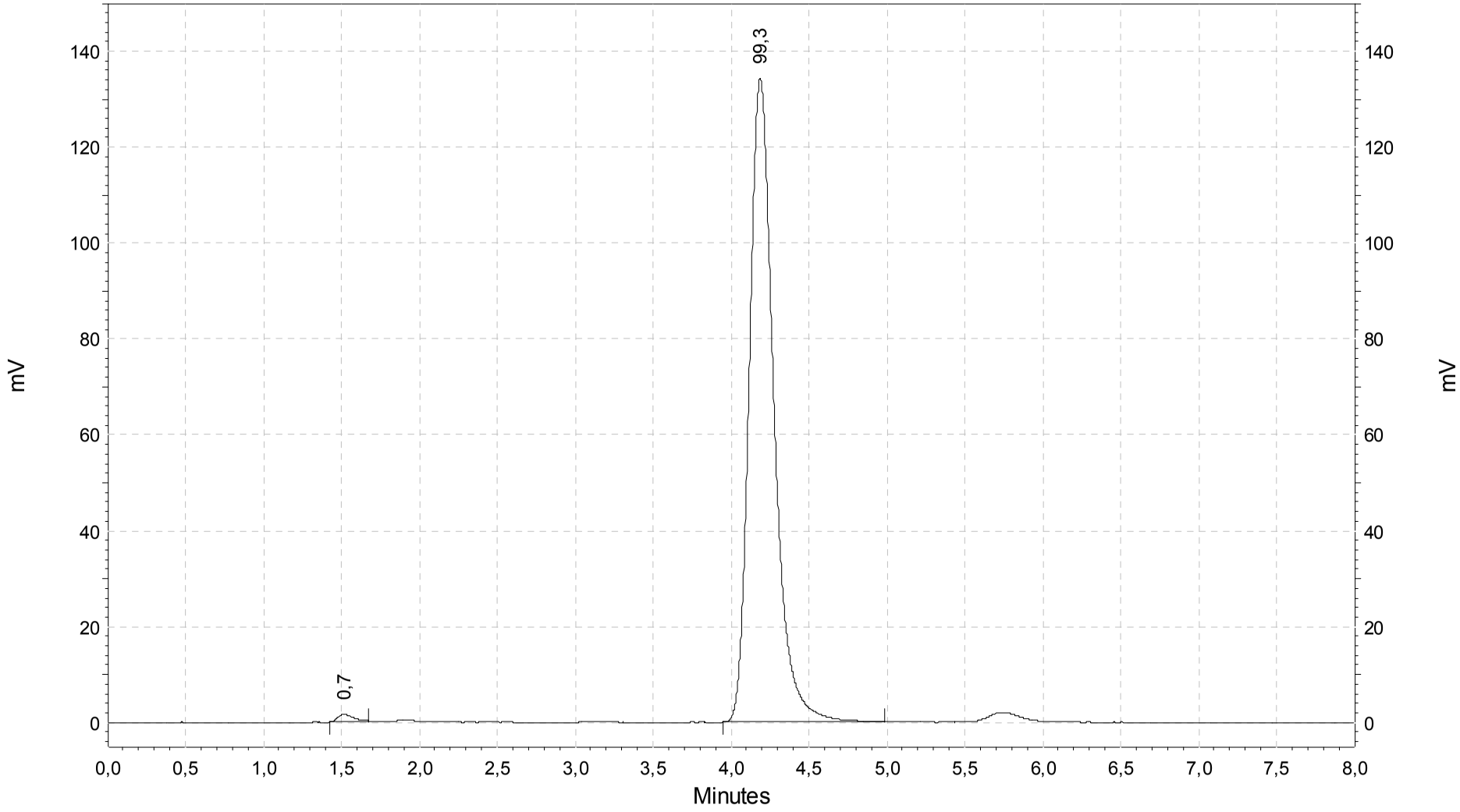


Figure 3 ATR-FTIR spectra of powder CPT (1) and CPT in copolymer gel (2) in the range of 2000-4000 cm^{-1} (A) and 600-1800 cm^{-1} (B). Copolymer gel was recorded as background.

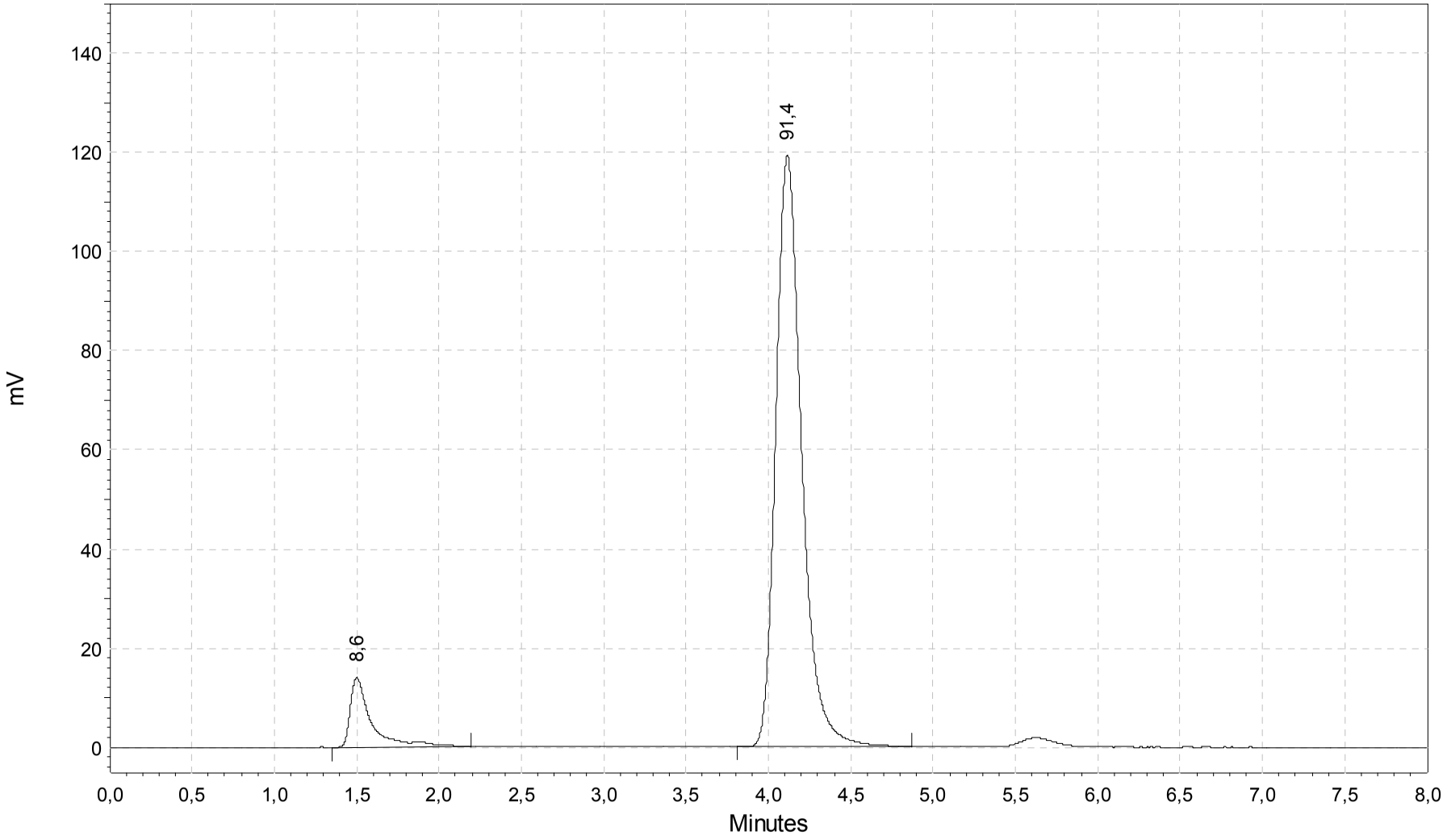
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

Copy of the HPLC spectra

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=0 min

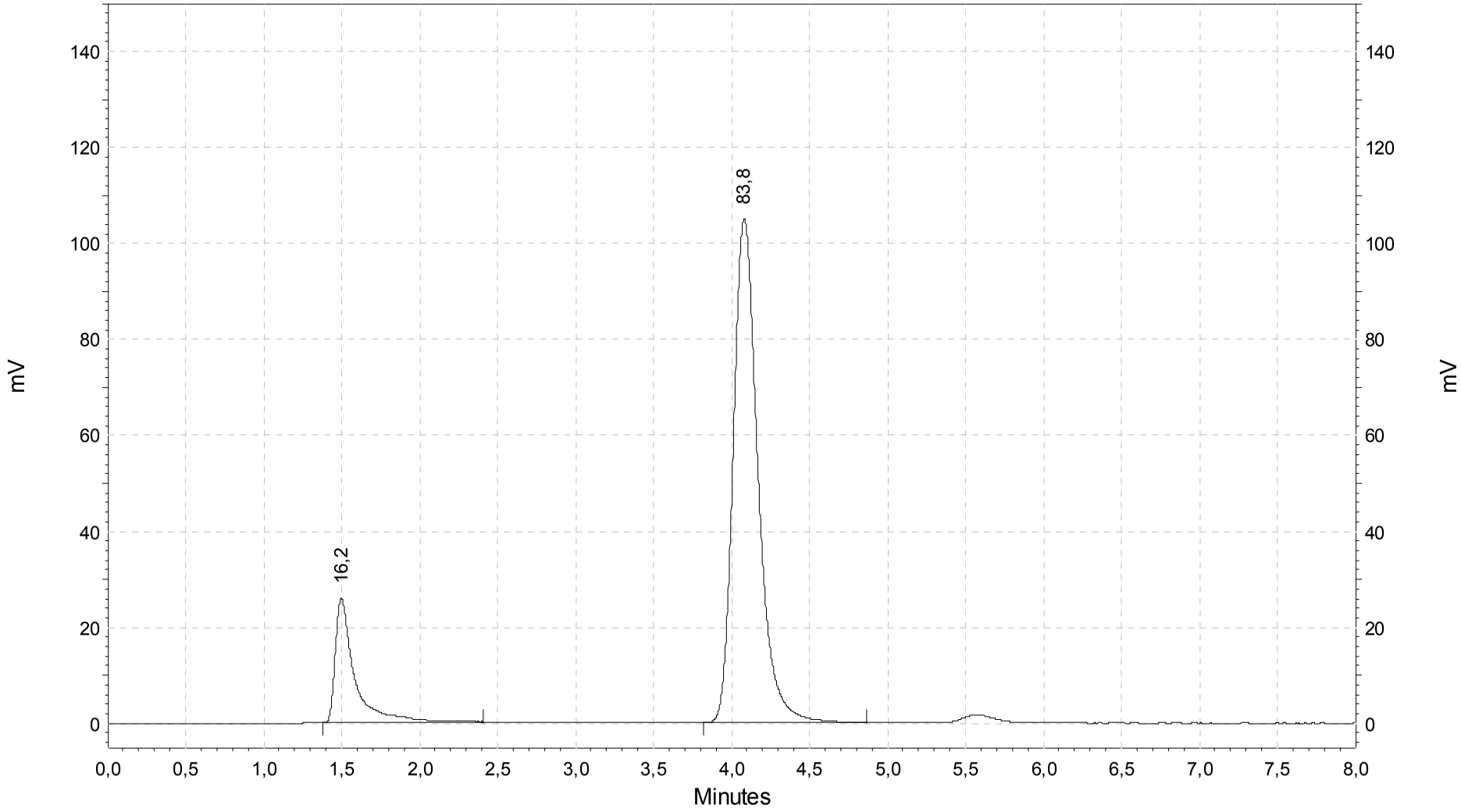


First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=20 min



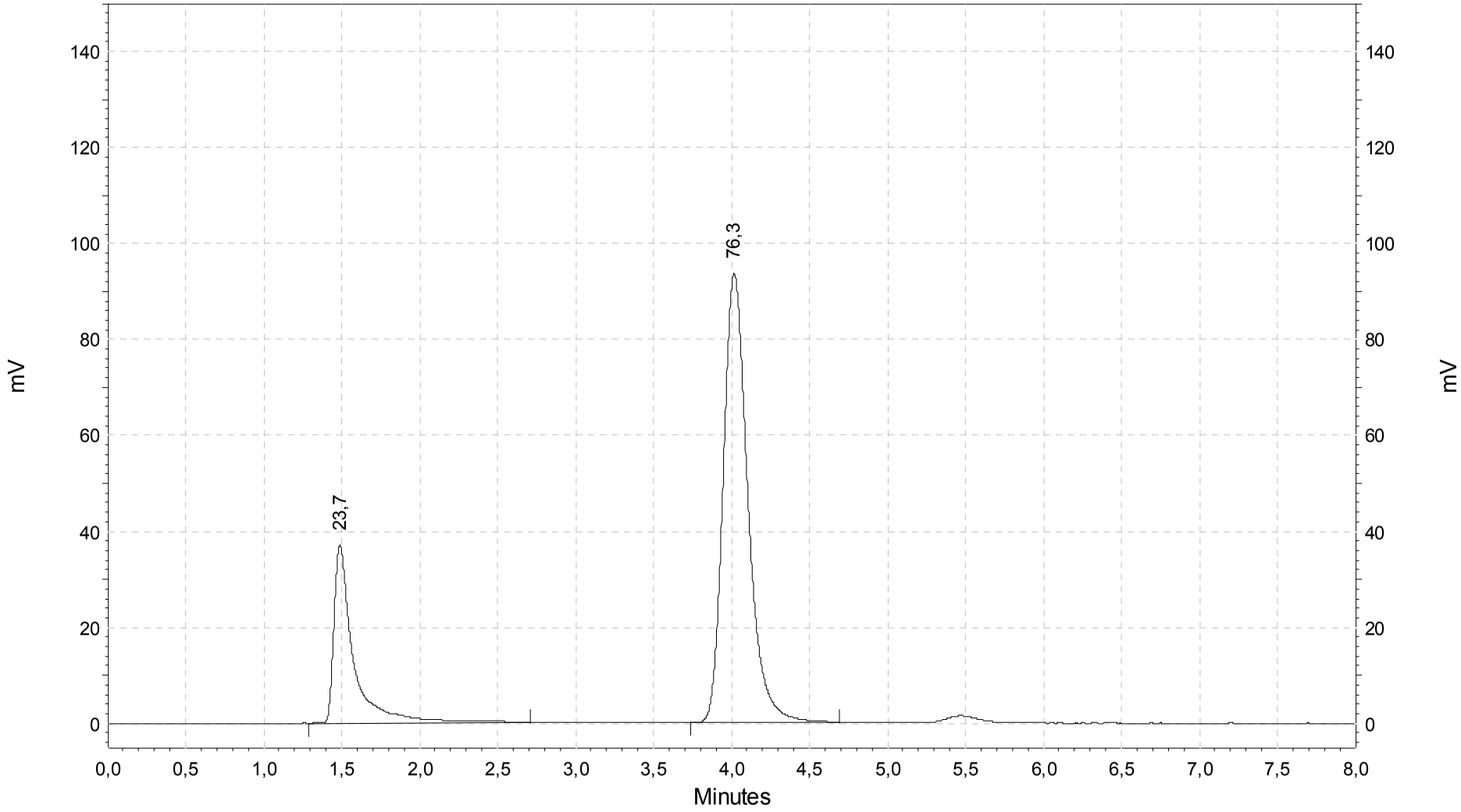
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=39 min



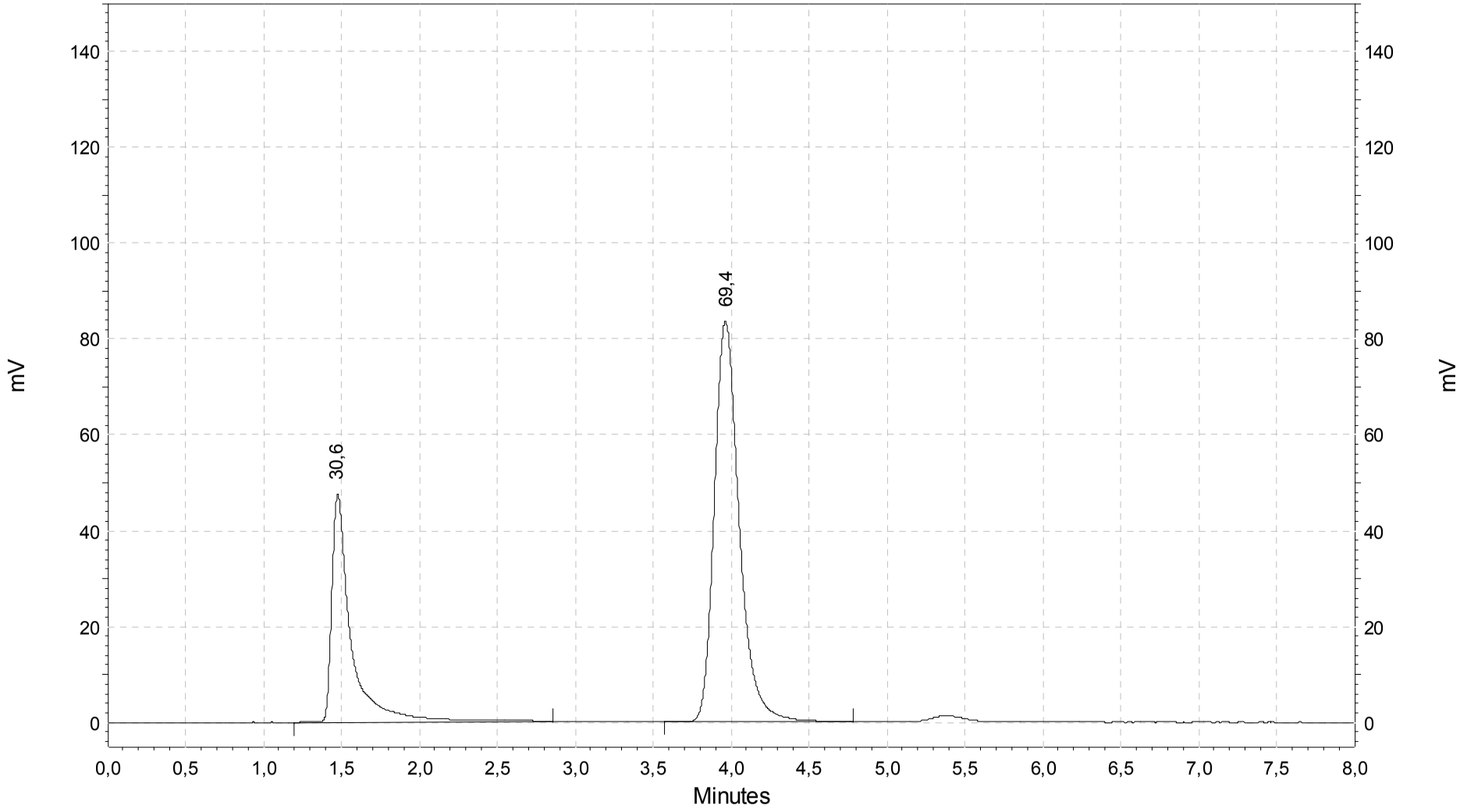
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=58 min



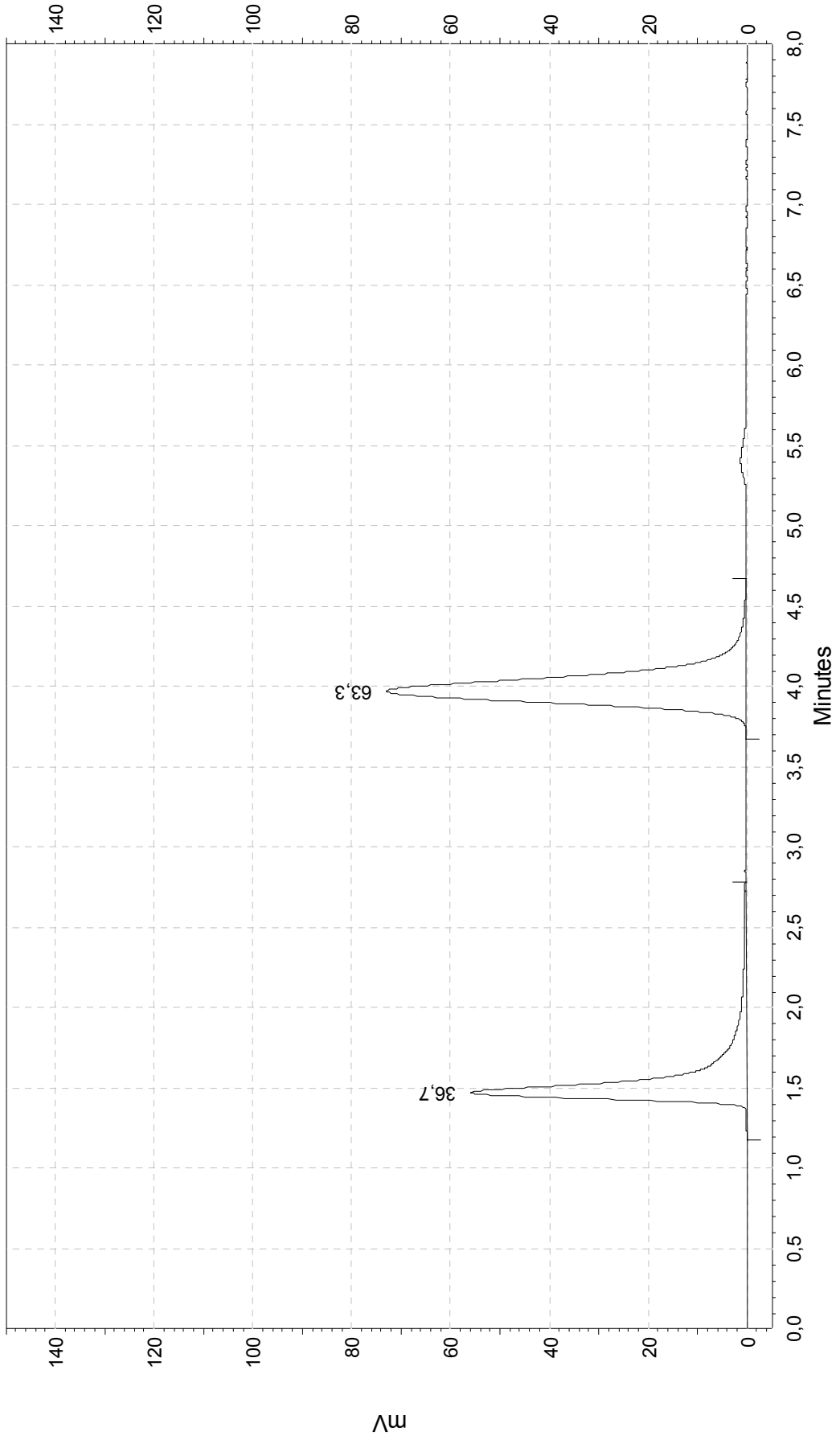
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=78 min



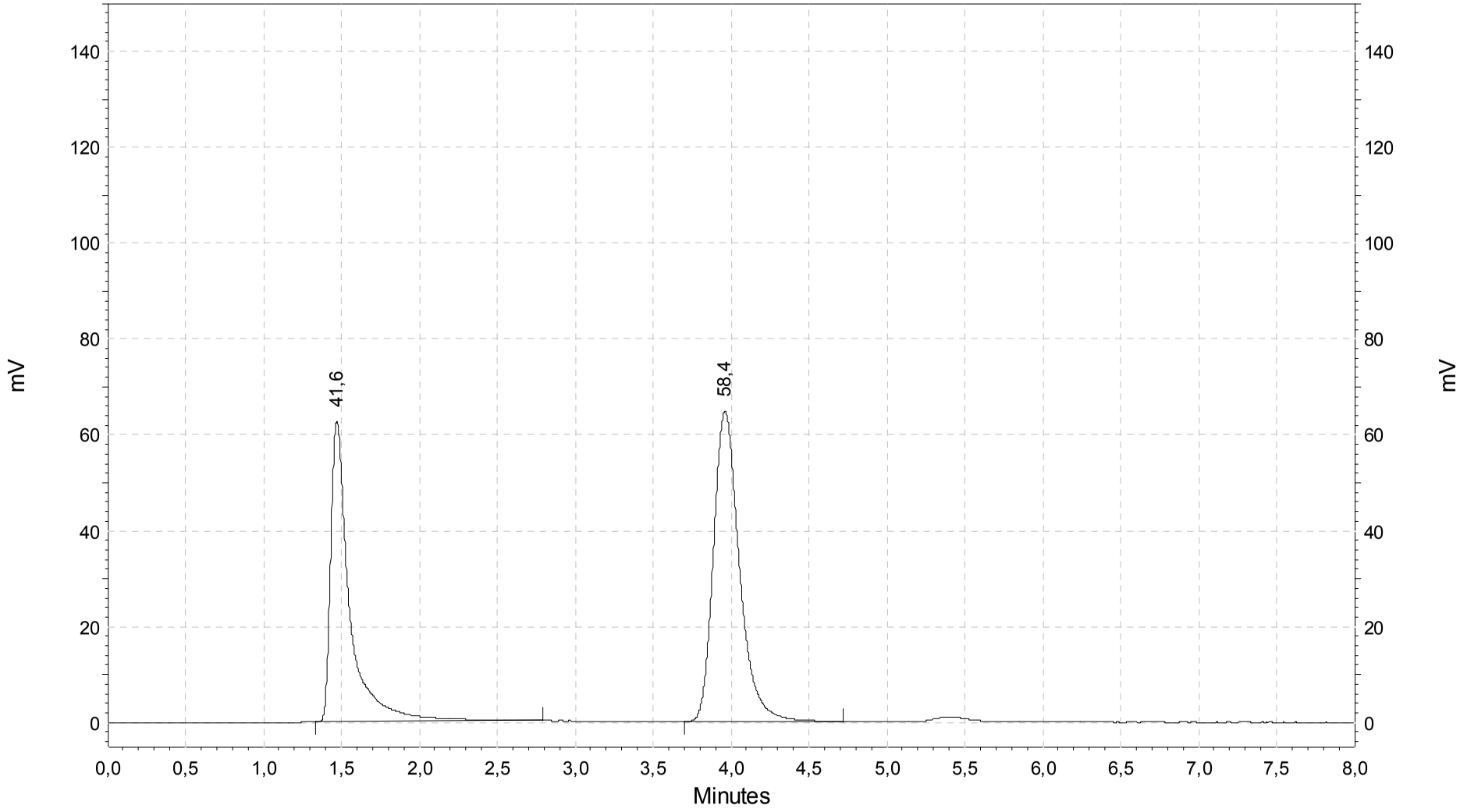
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



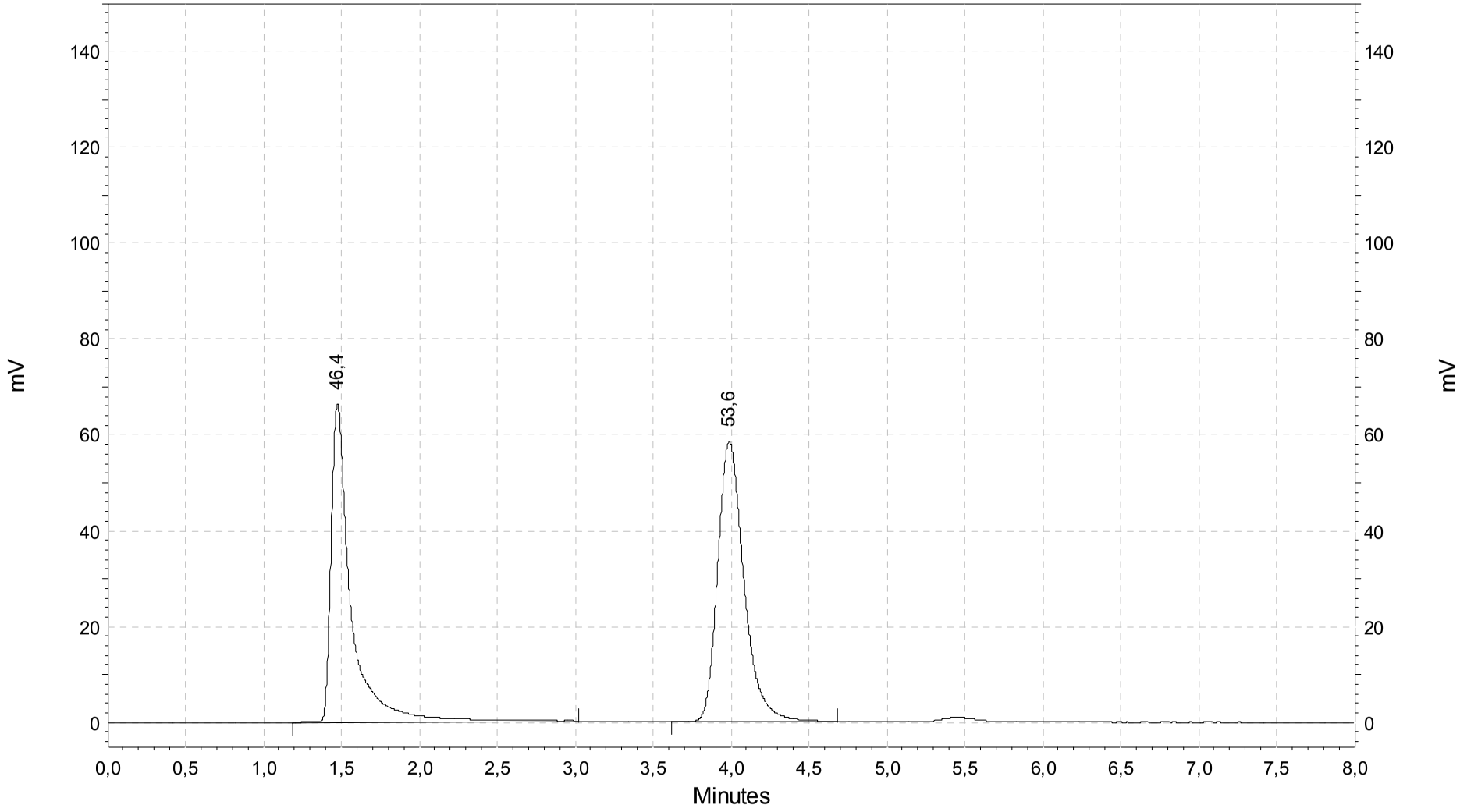
First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=97 min

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=117 min



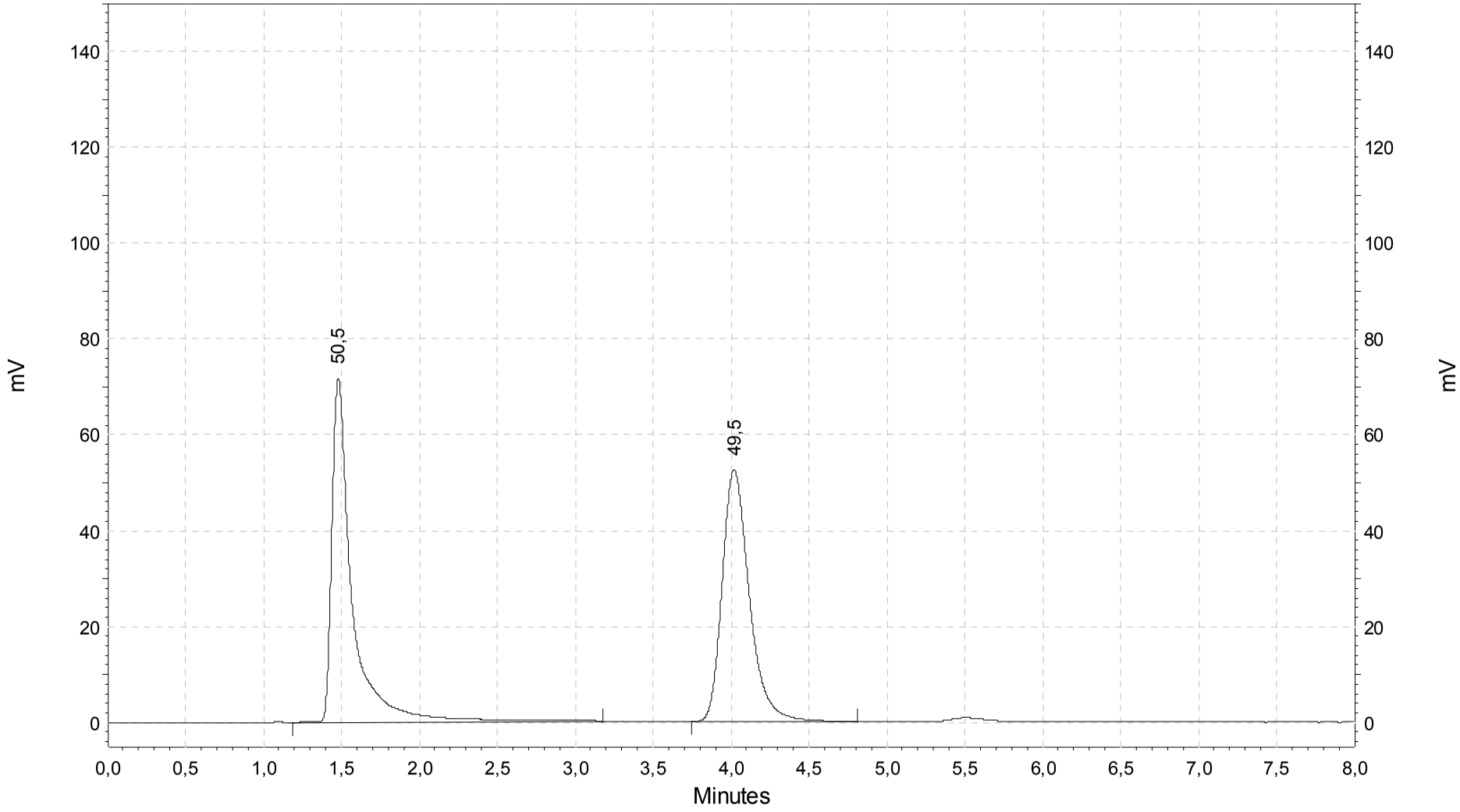
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=136 min



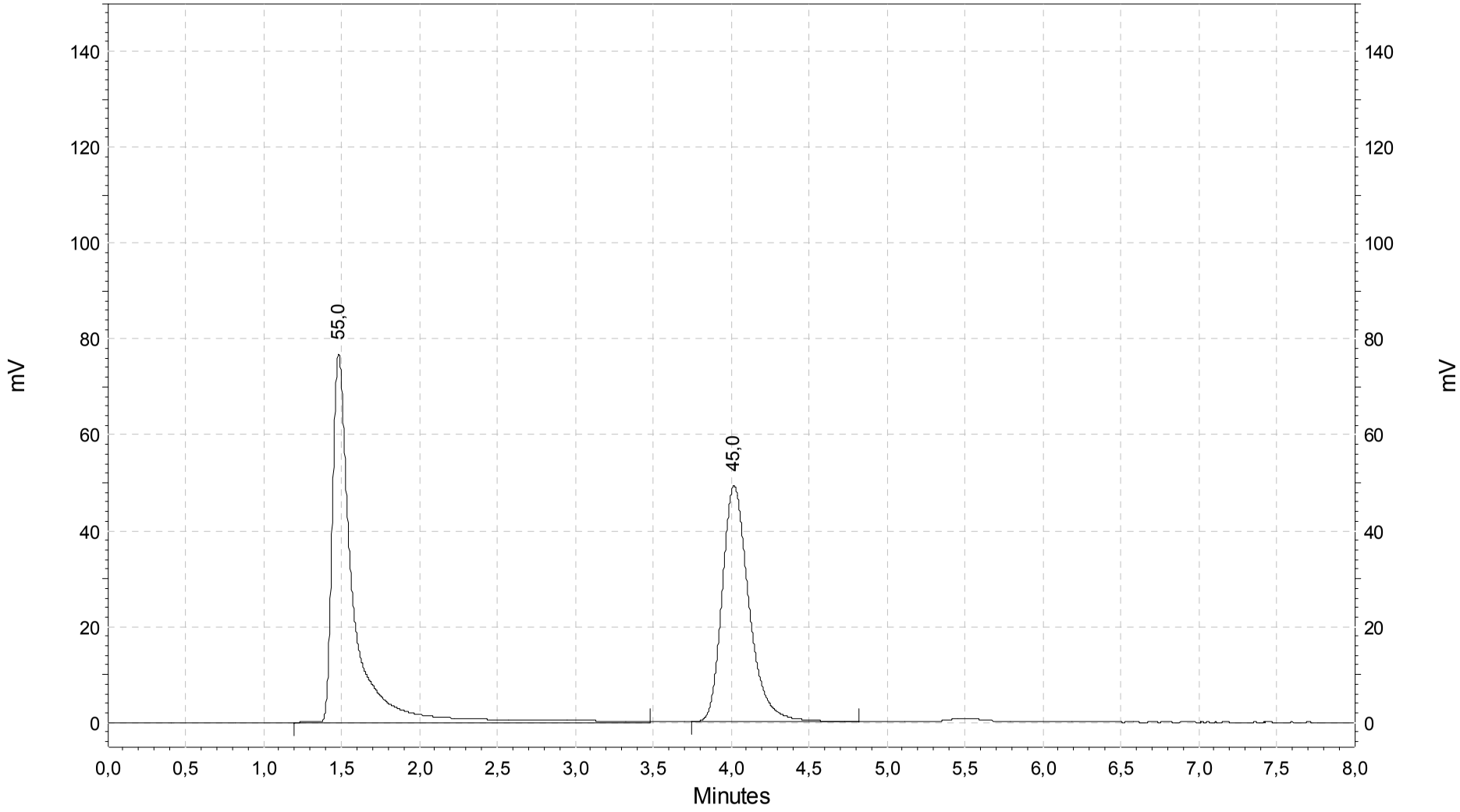
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=155 min



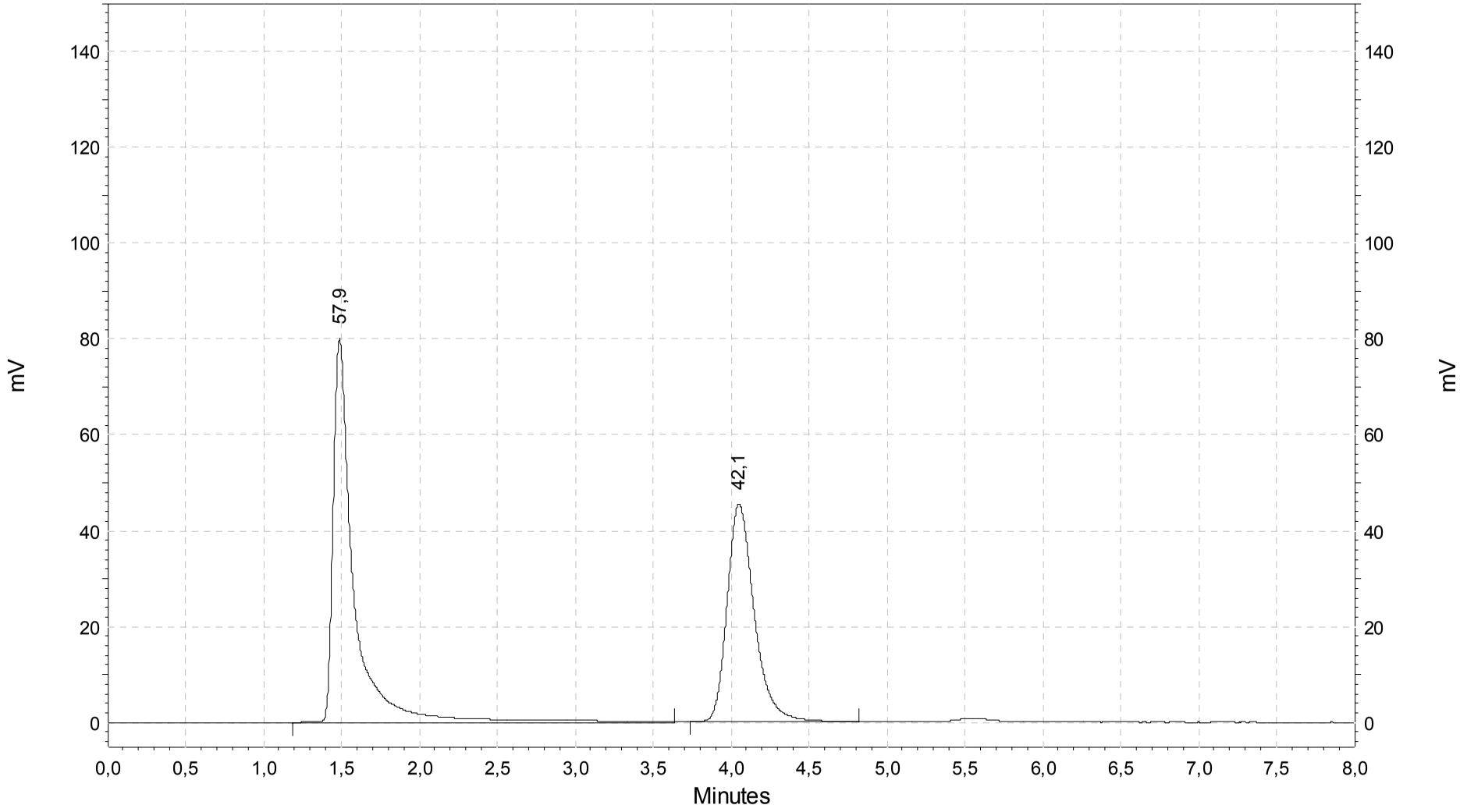
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=175 min



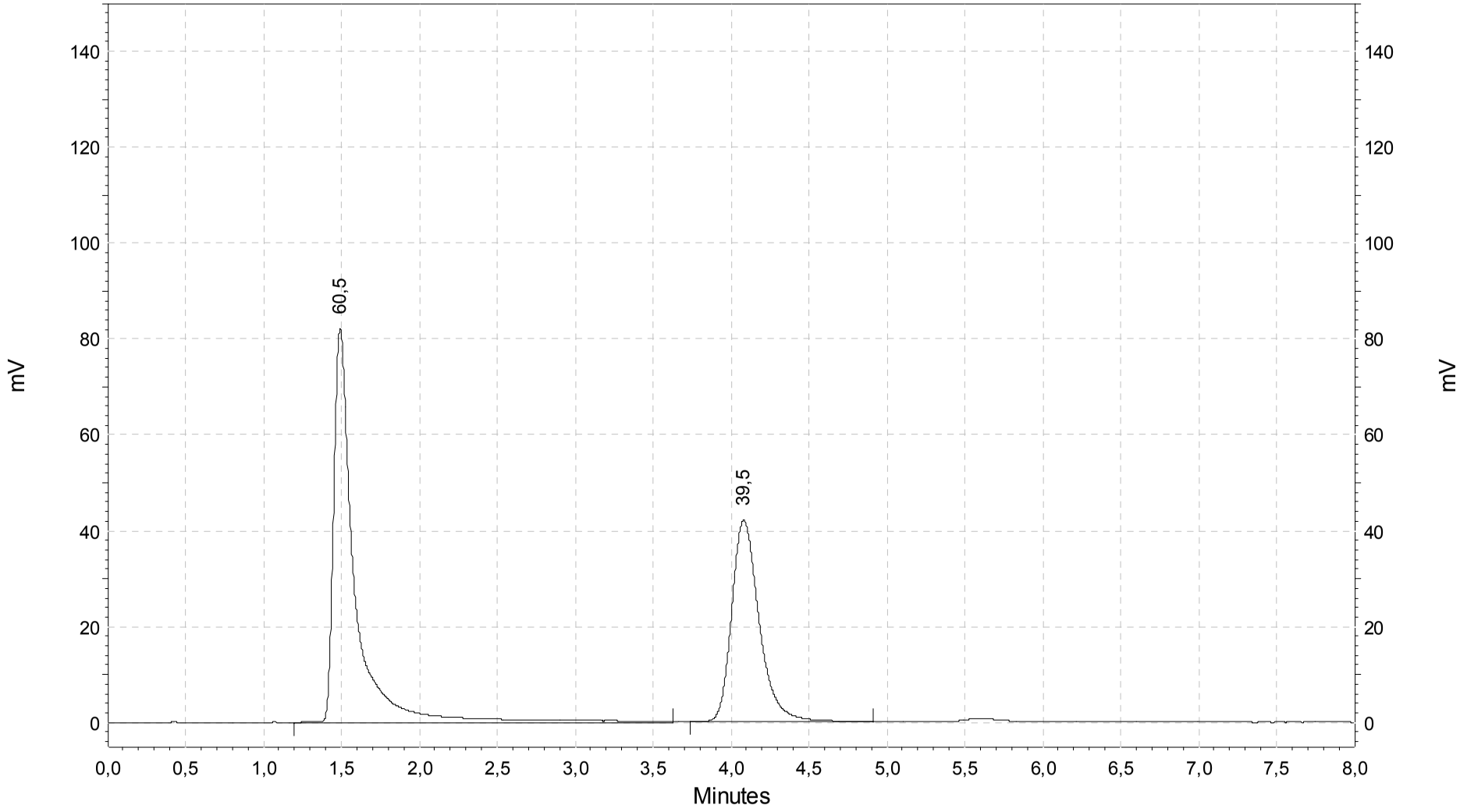
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t= 194 min



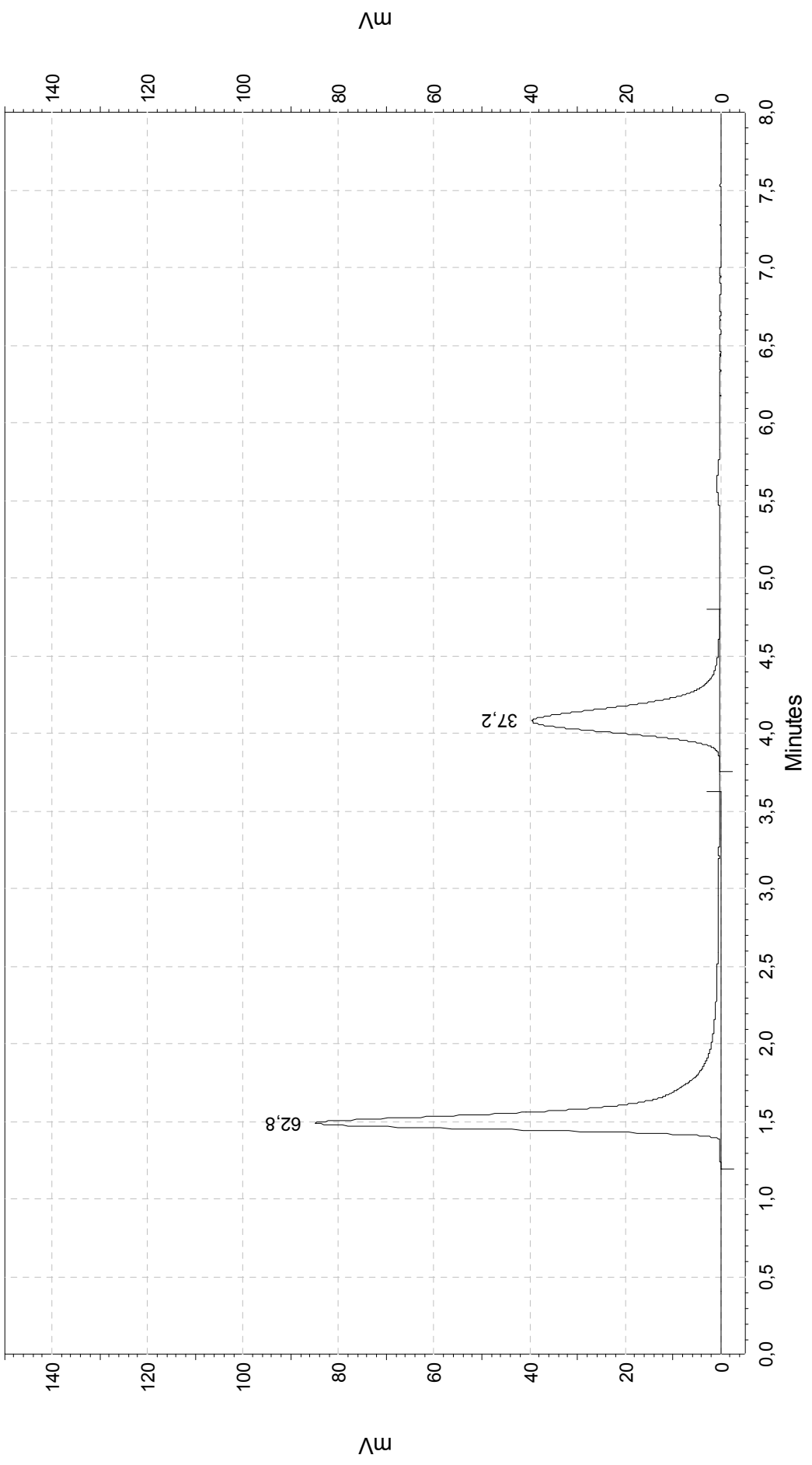
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=213 min



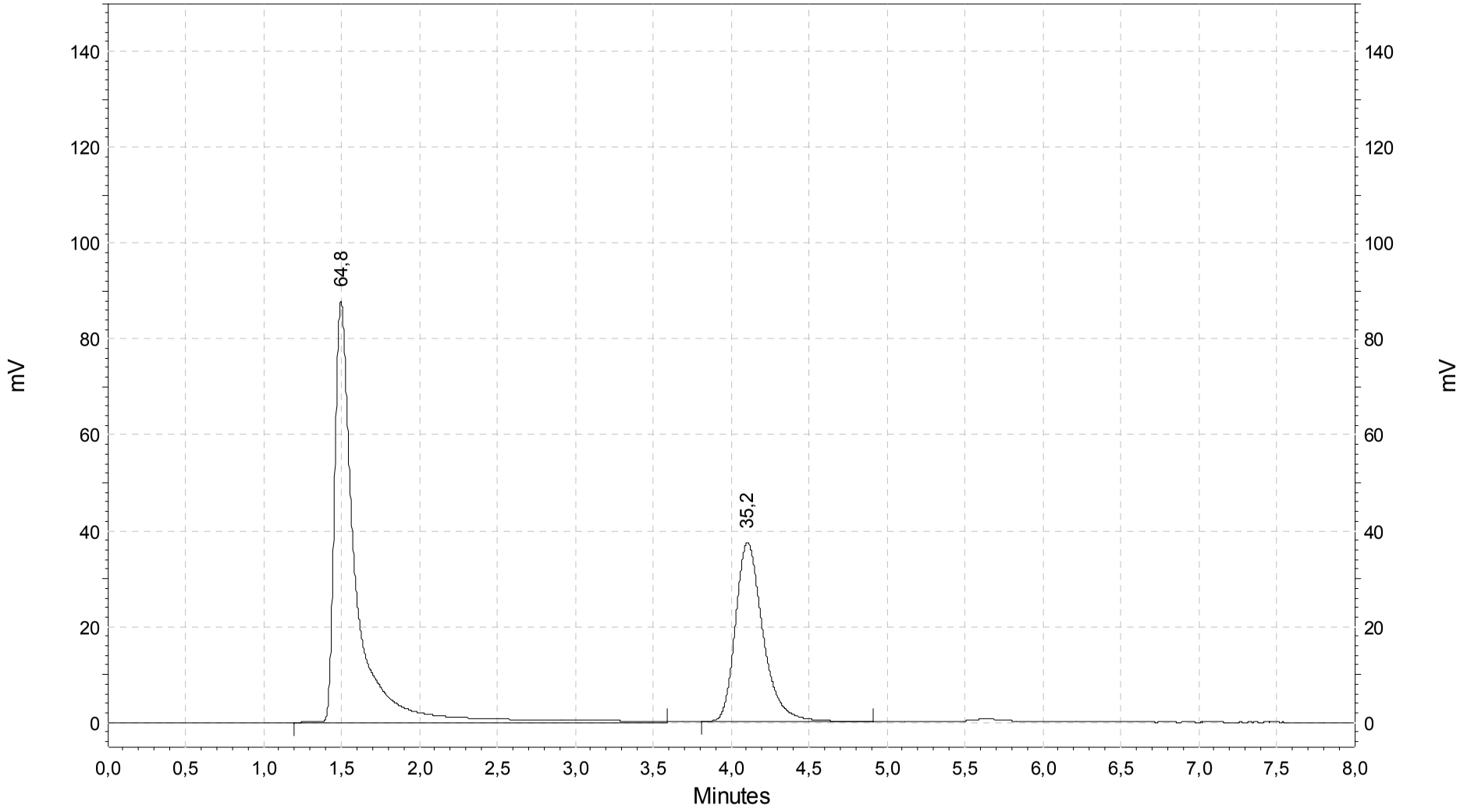
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



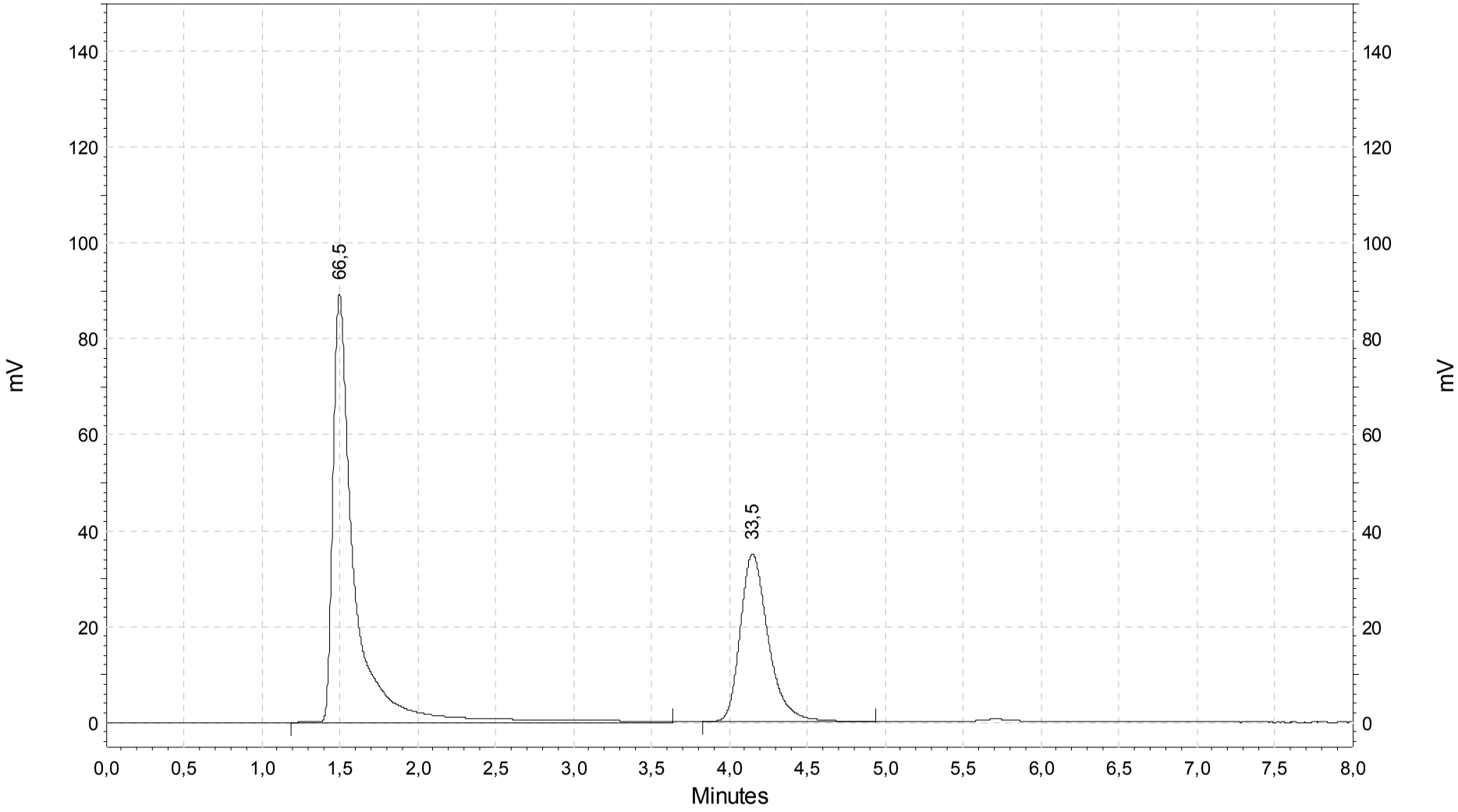
First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=232 min

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=252 min



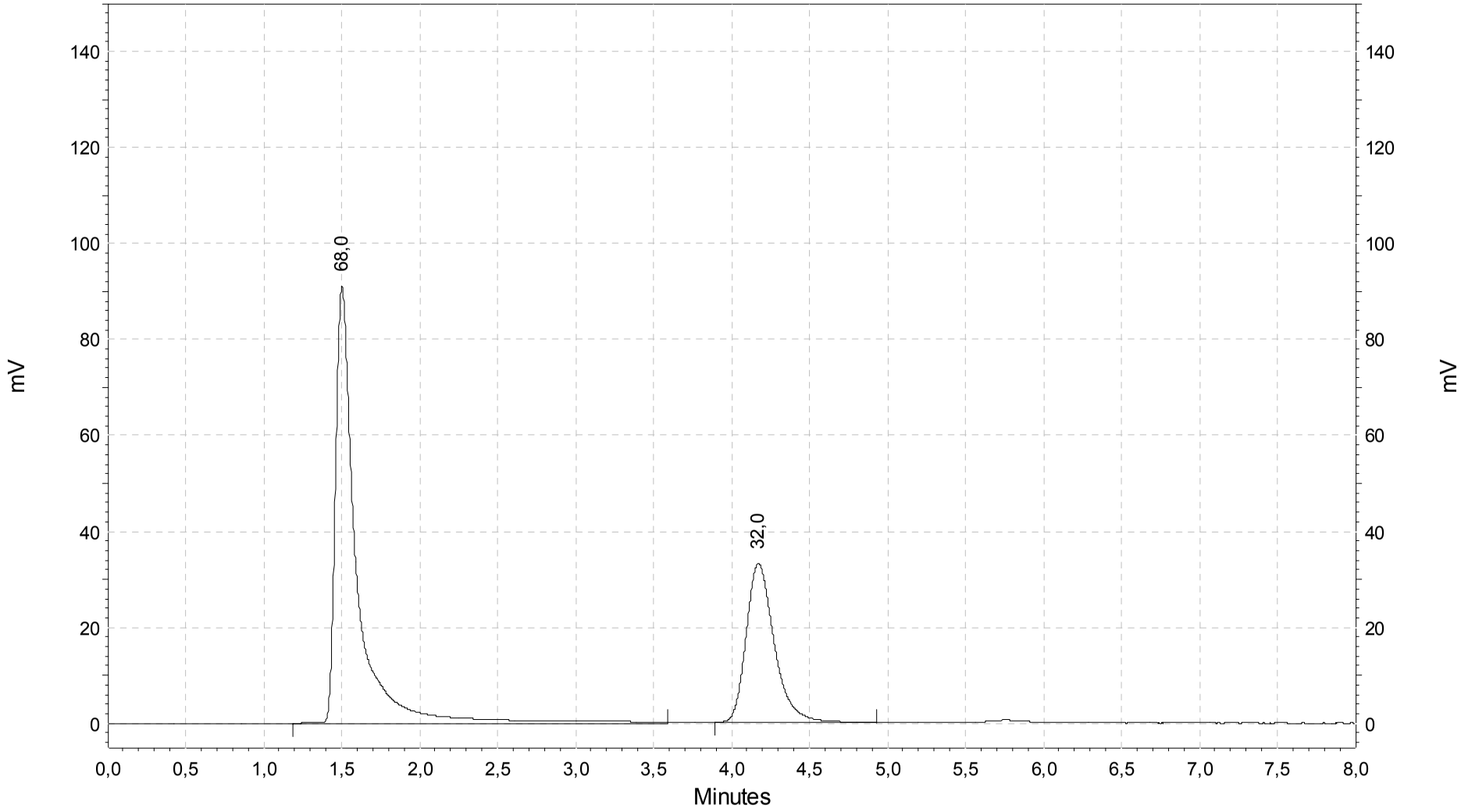
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=271 min



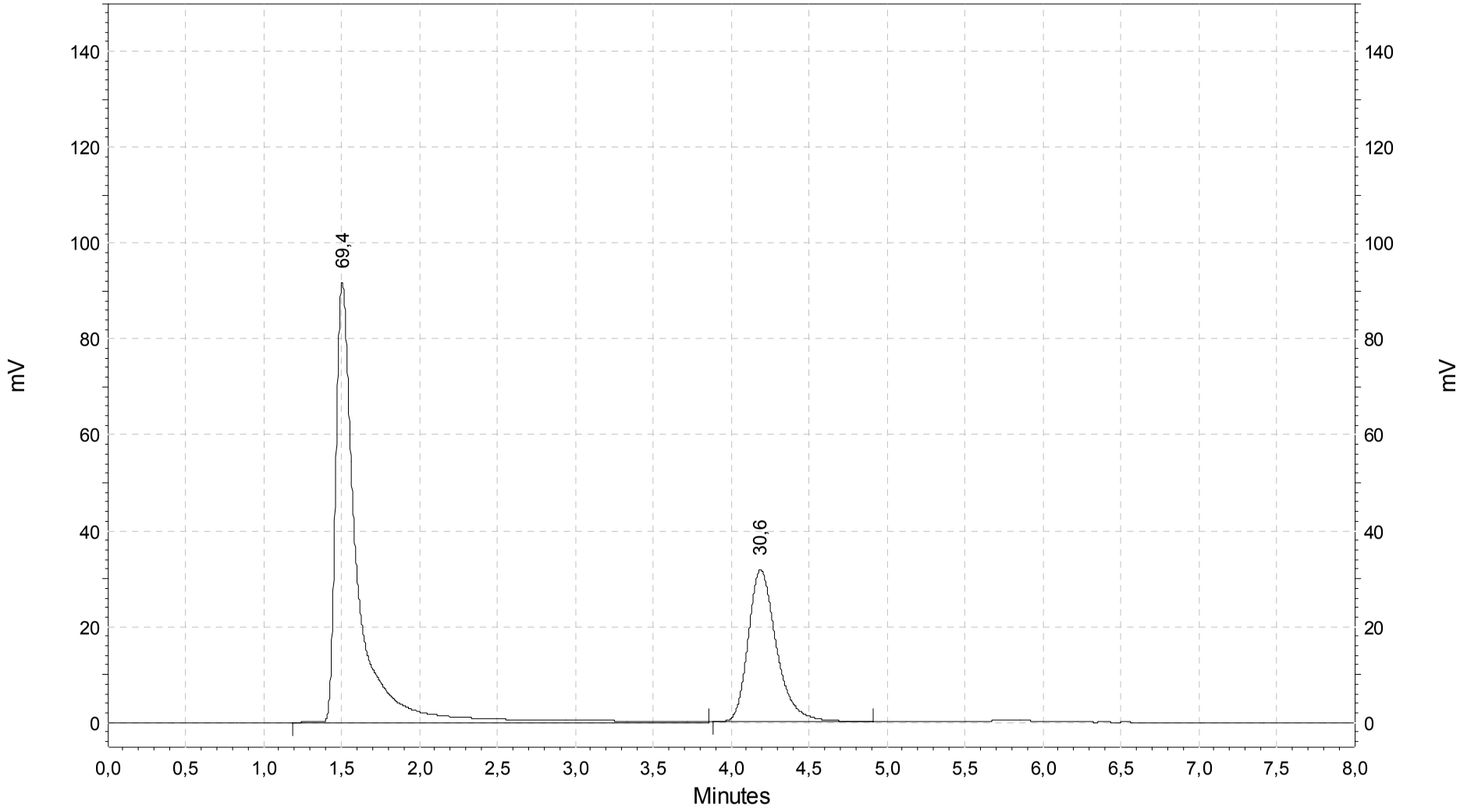
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=290 min



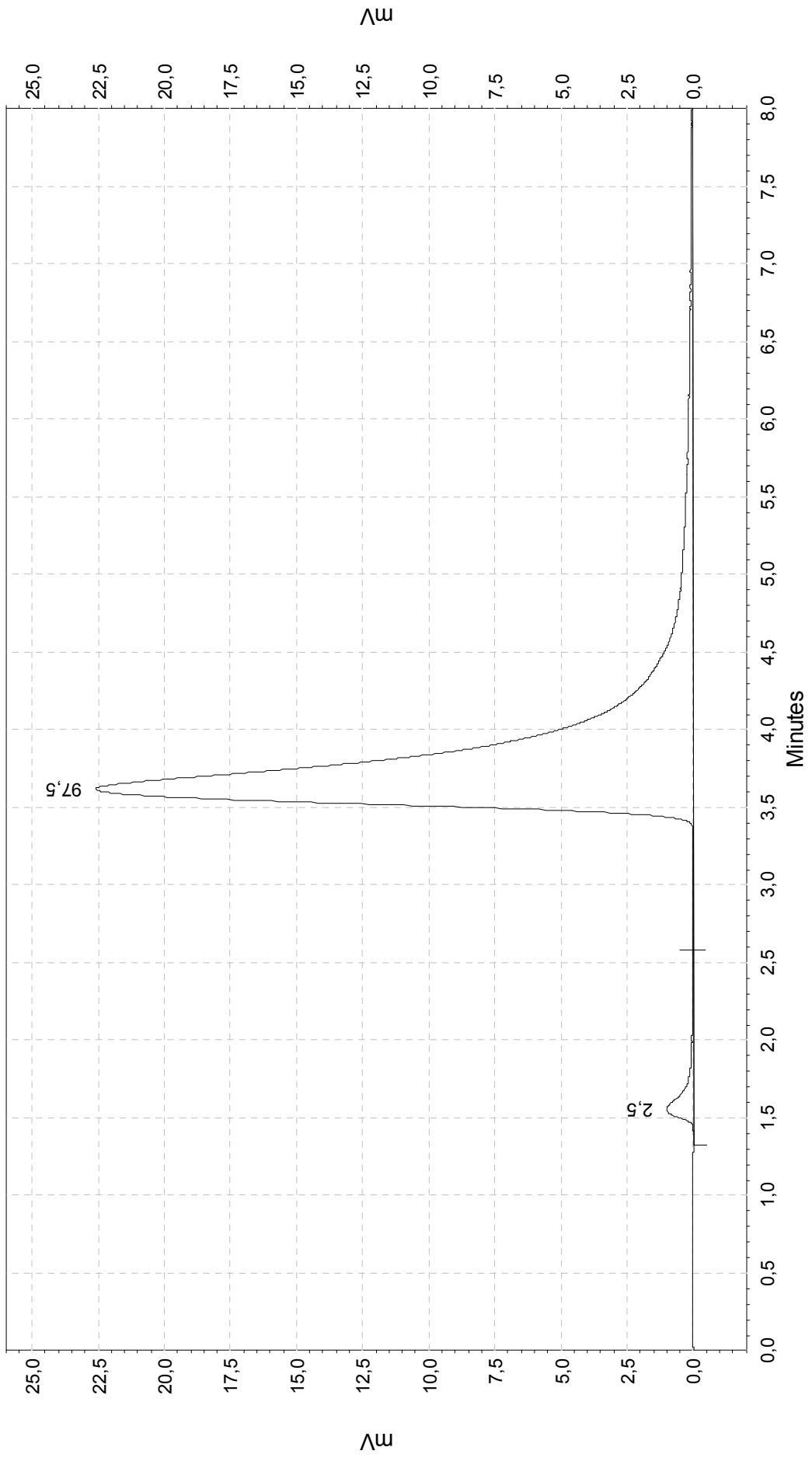
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free CPT in tris buffer at pH=7.4
t=310 min



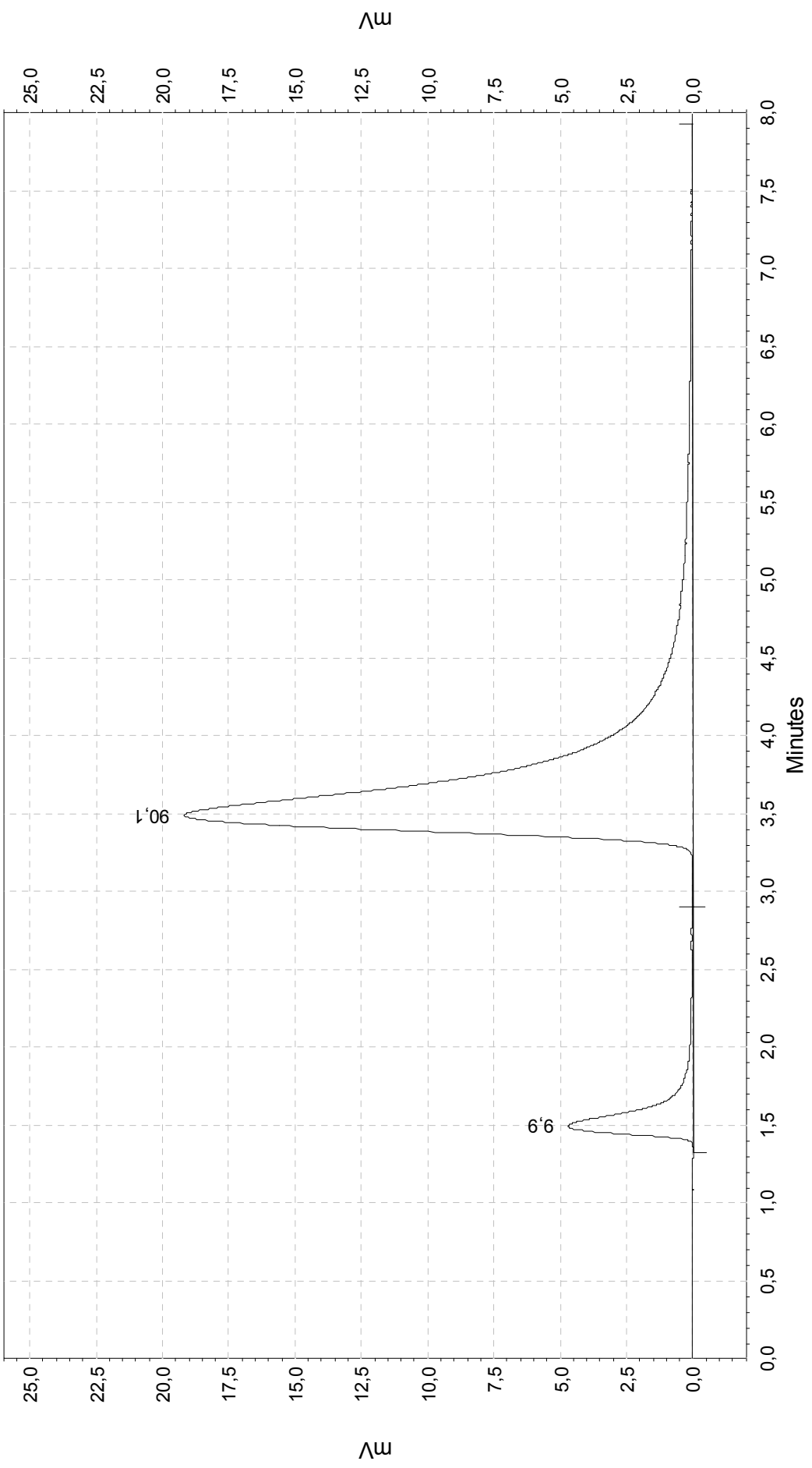
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



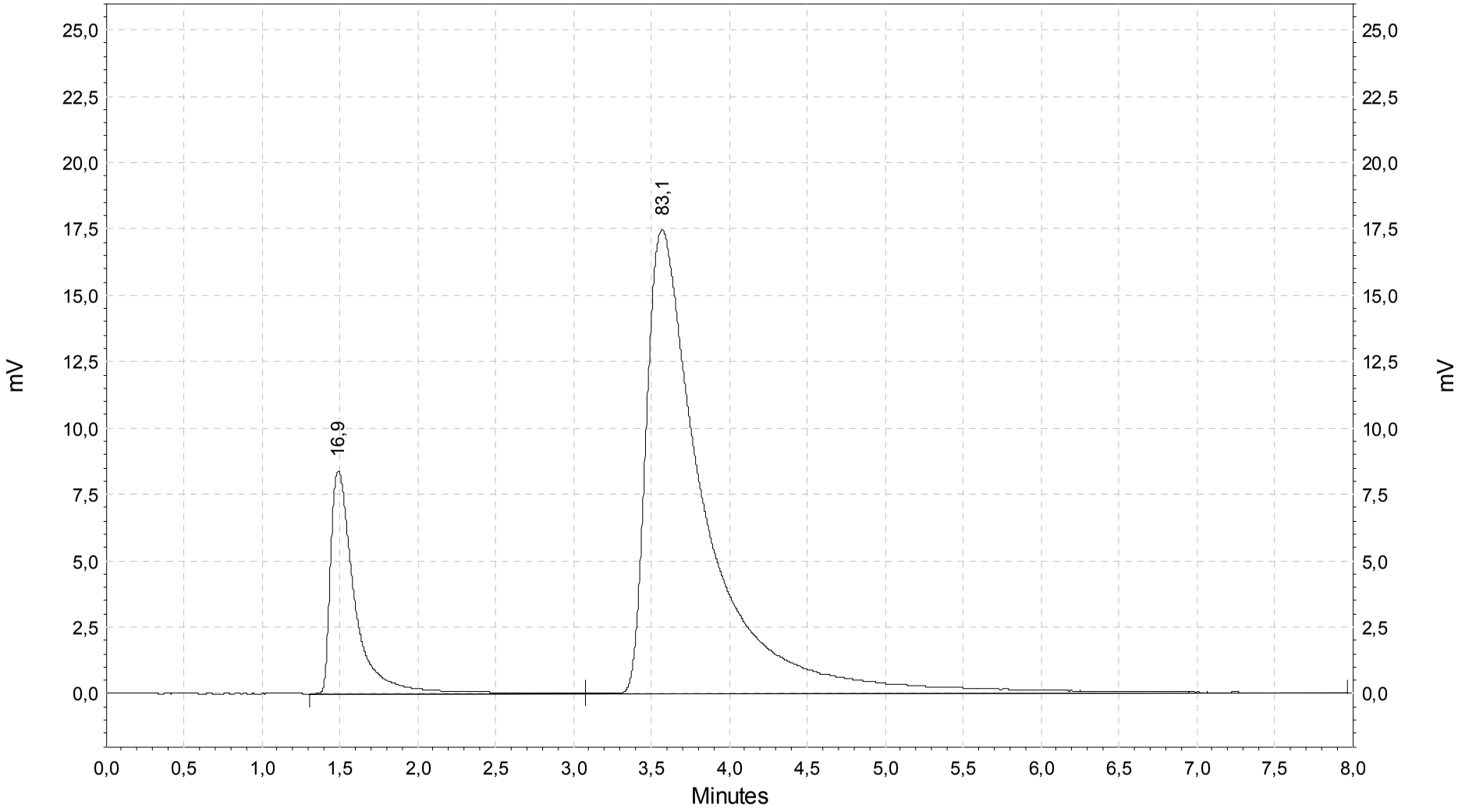
First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=0 min

This journal is © The Royal Society of Chemistry 2011



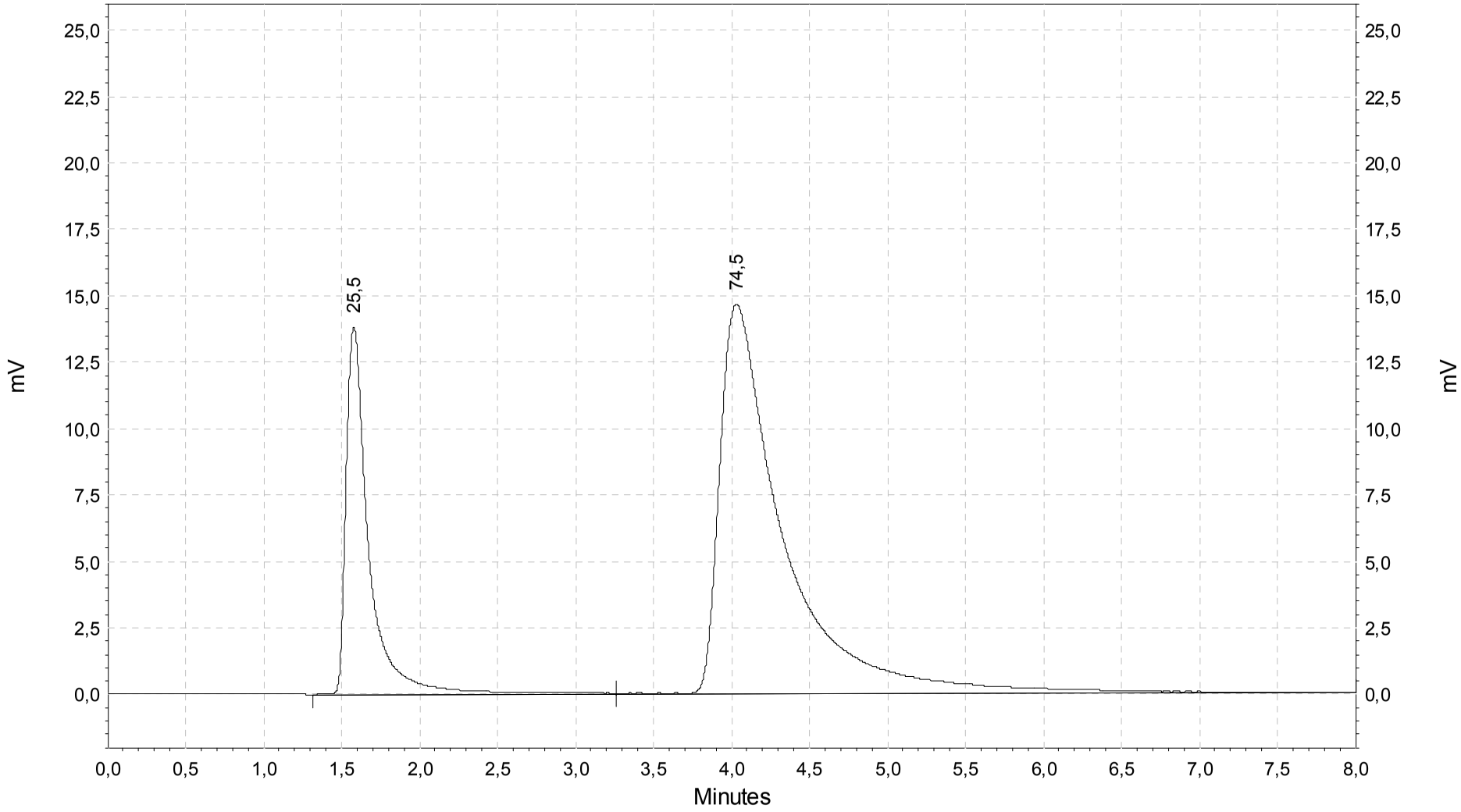
First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=20 min

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=39 min



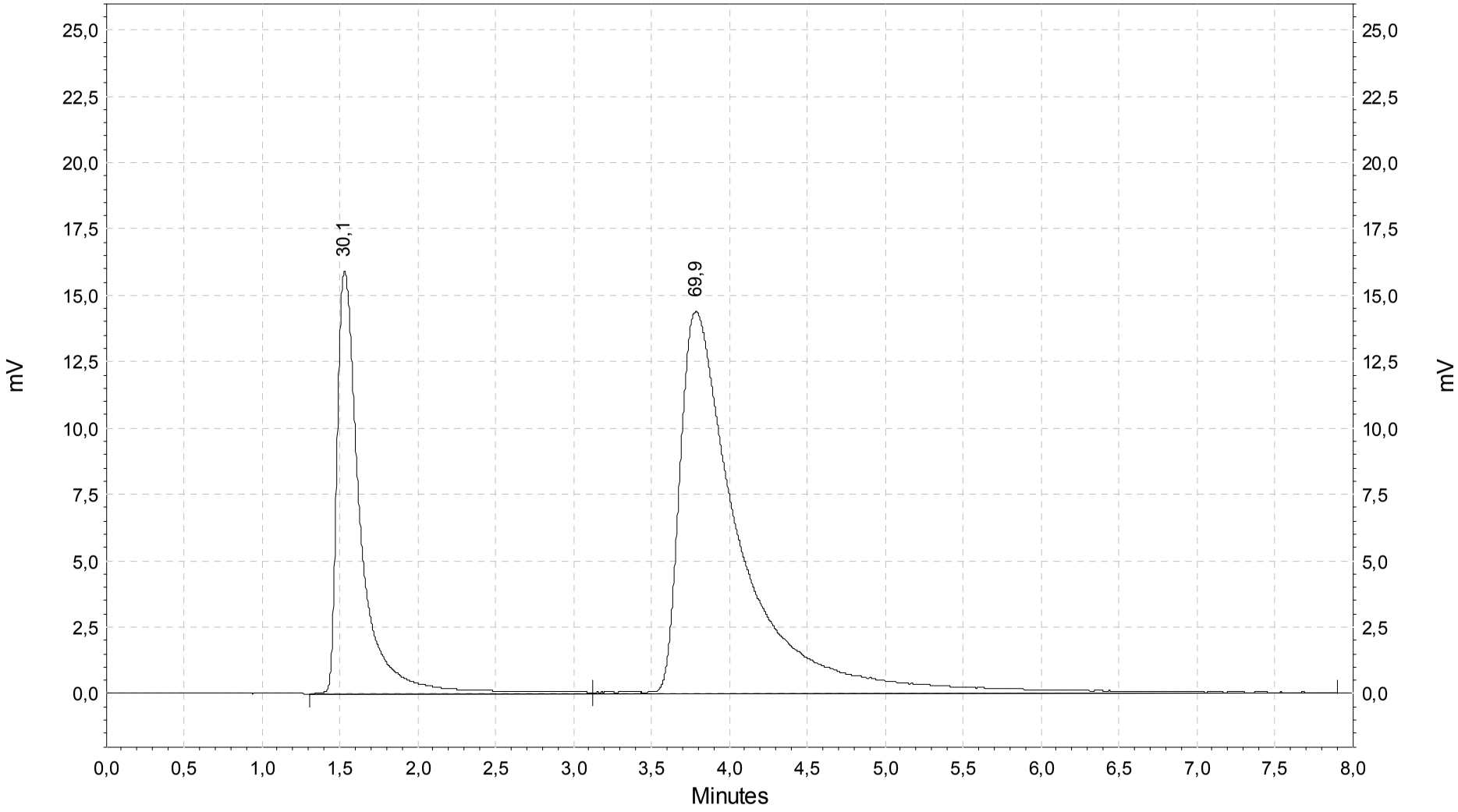
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=58 min



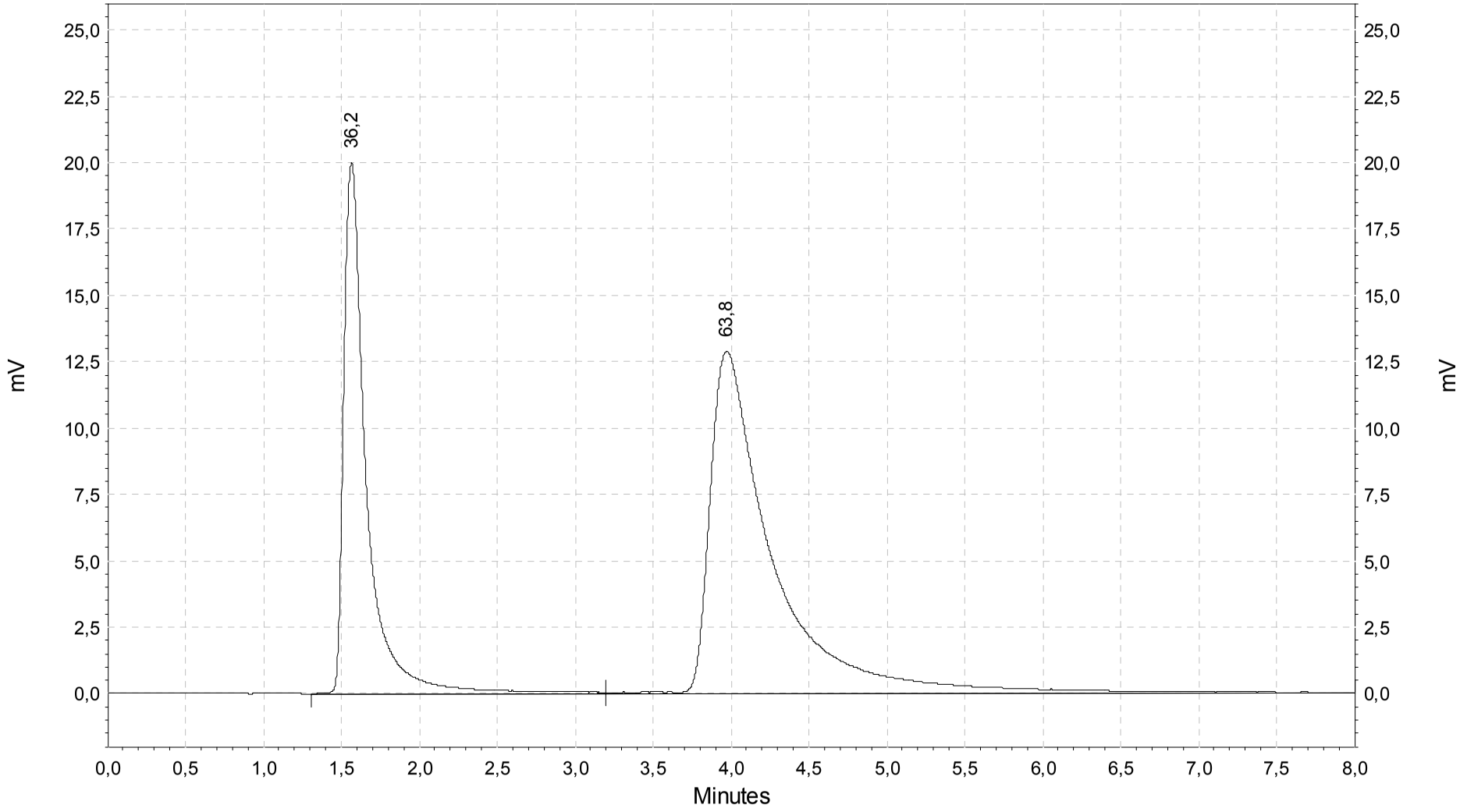
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=78 min



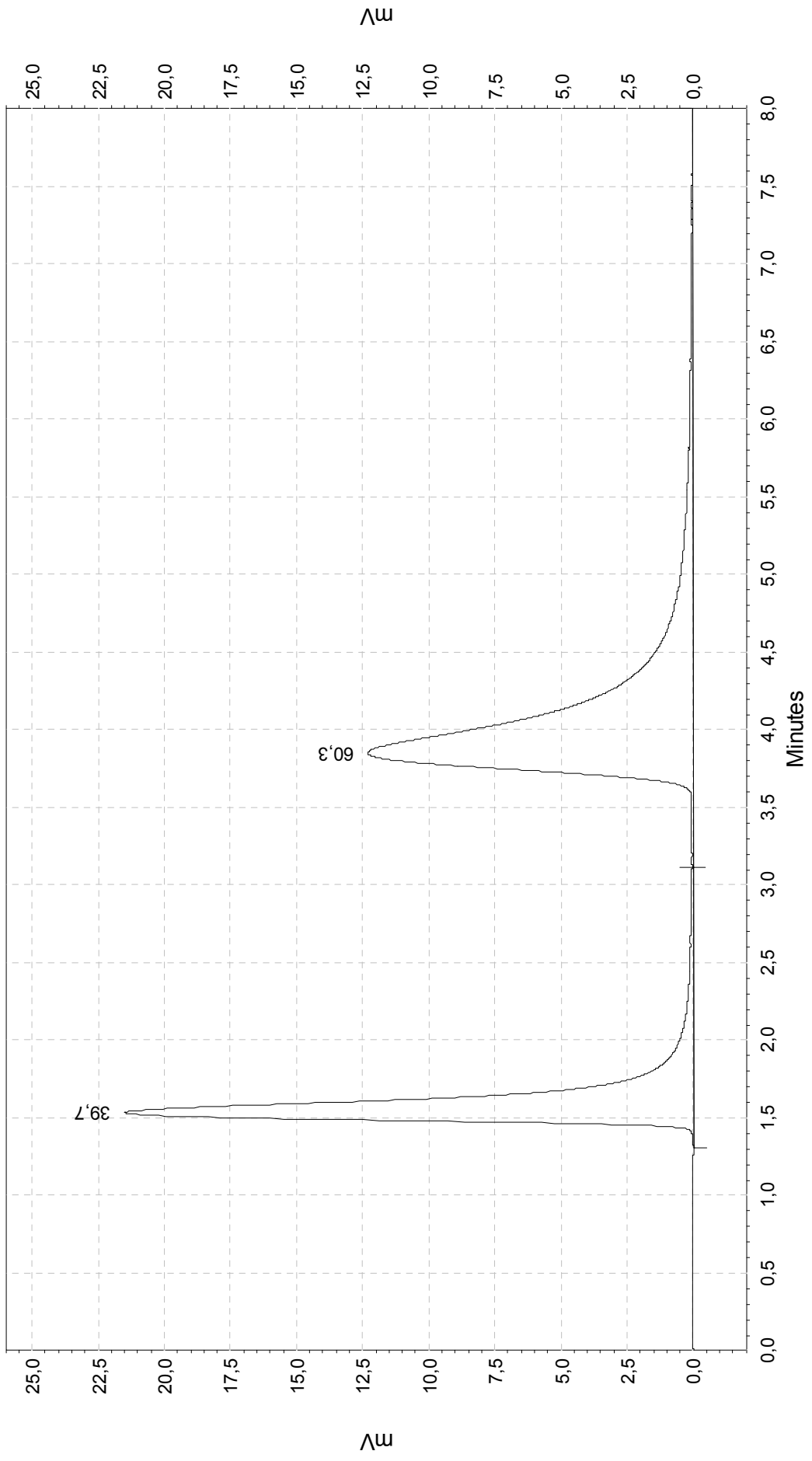
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=97 min



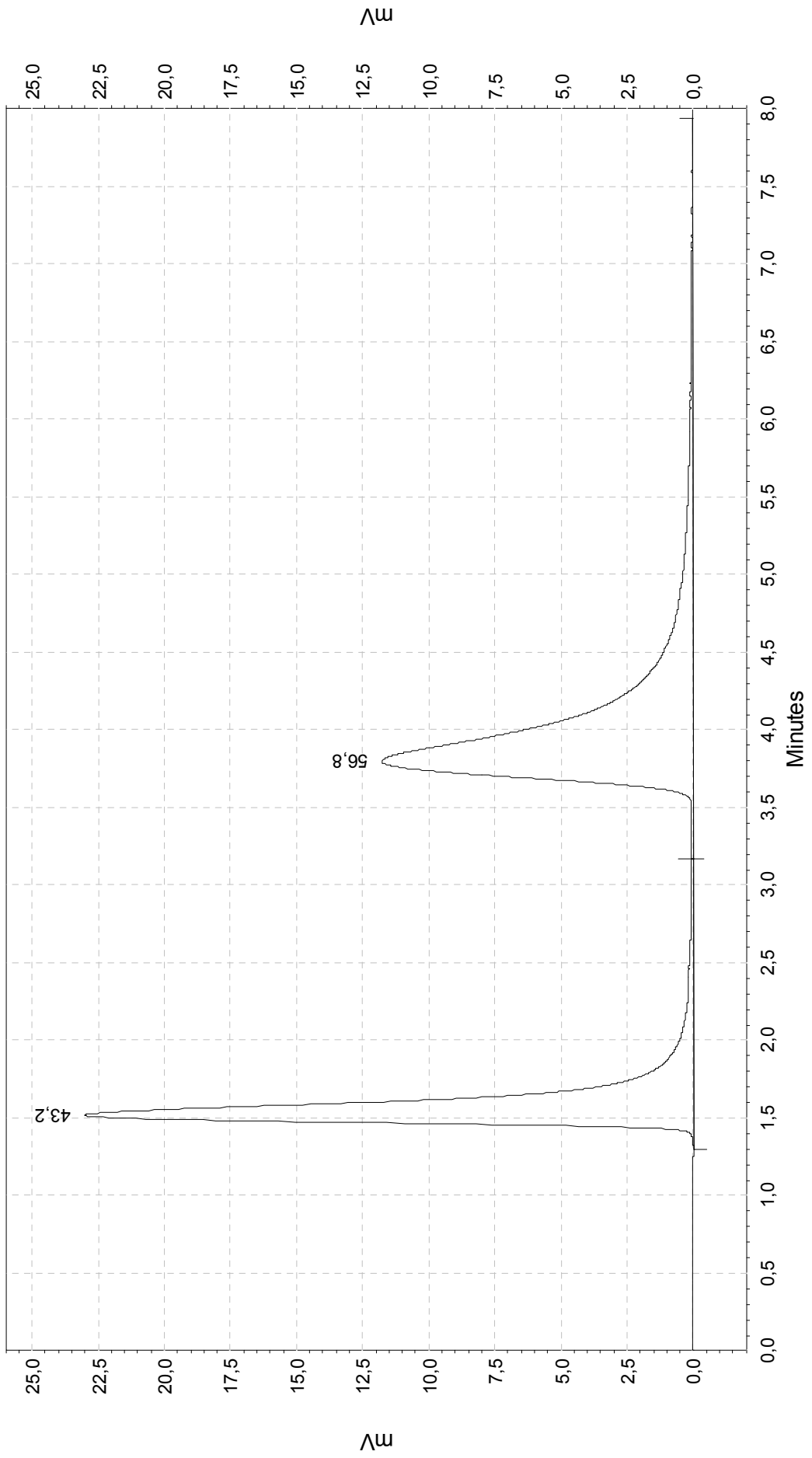
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



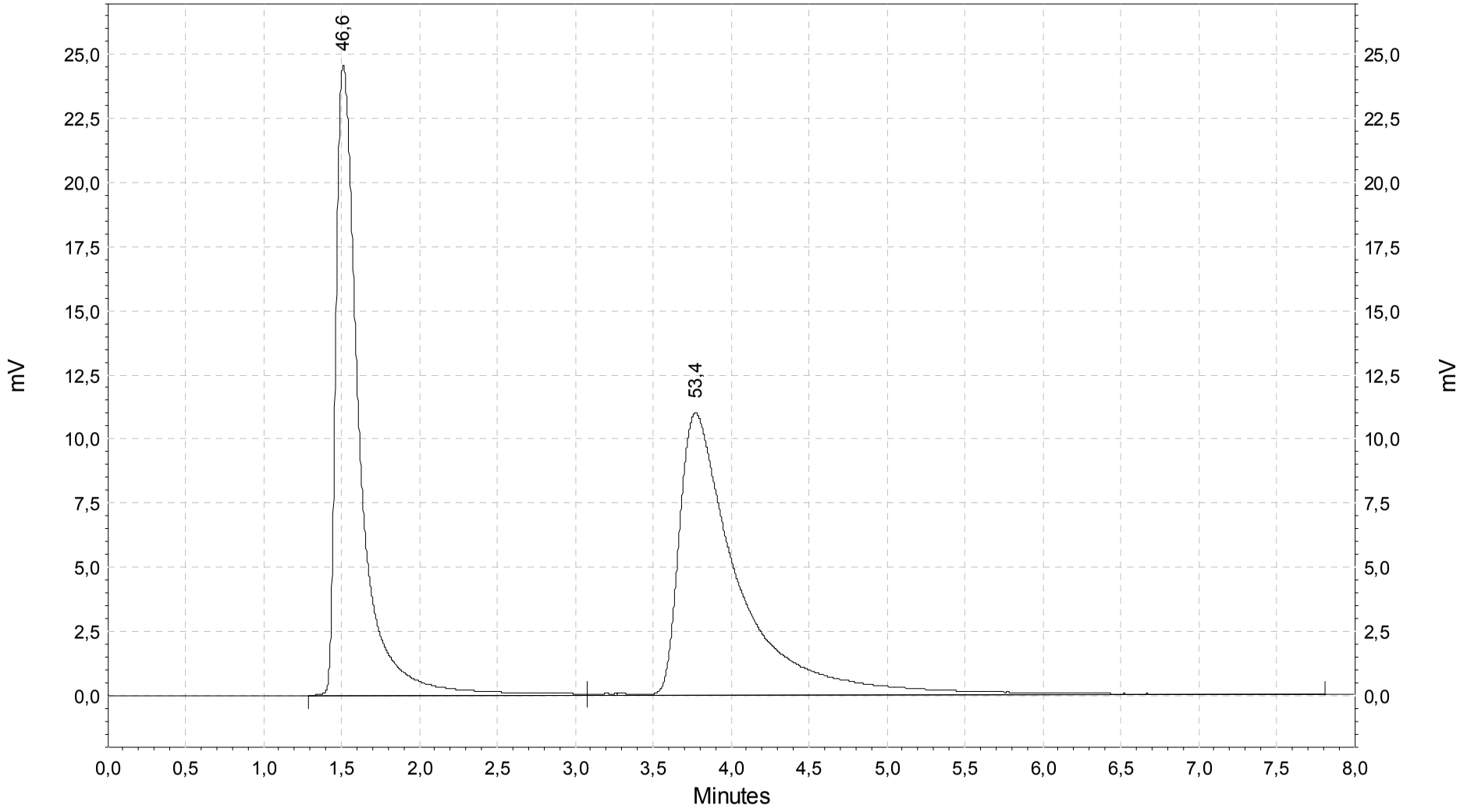
First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=117 min

This journal is © The Royal Society of Chemistry 2011



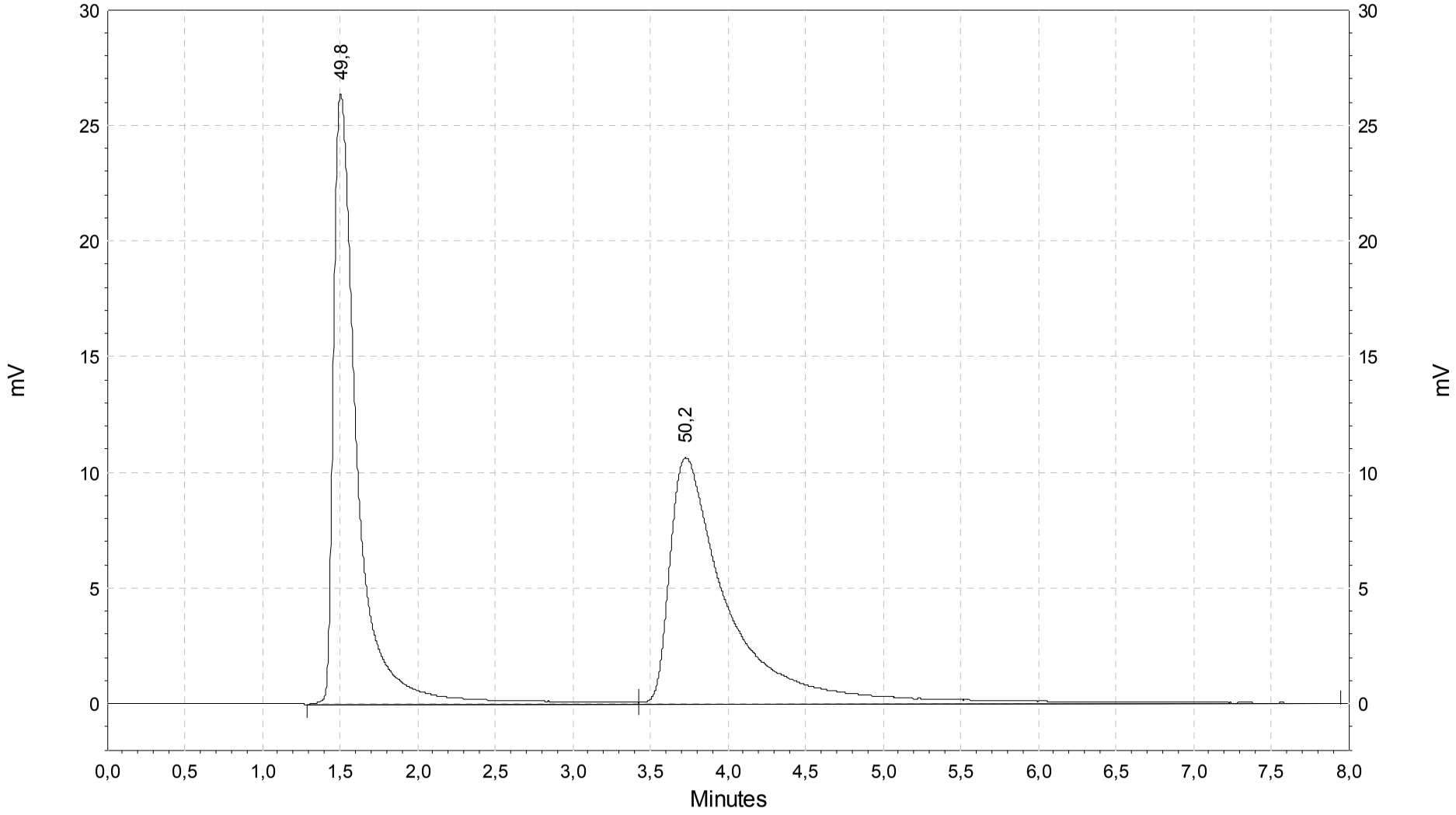
First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=136 min

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=155 min



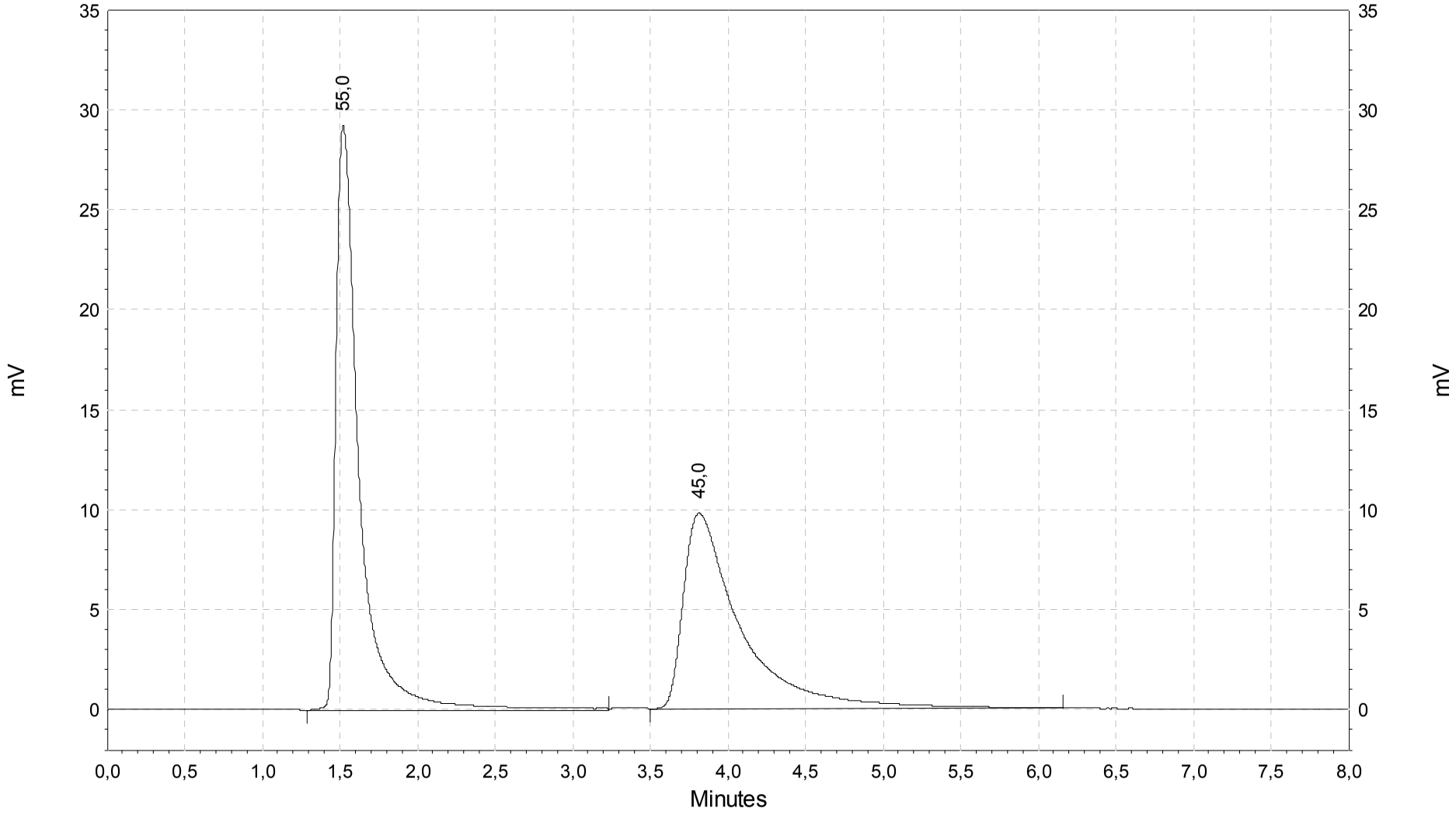
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=175 min



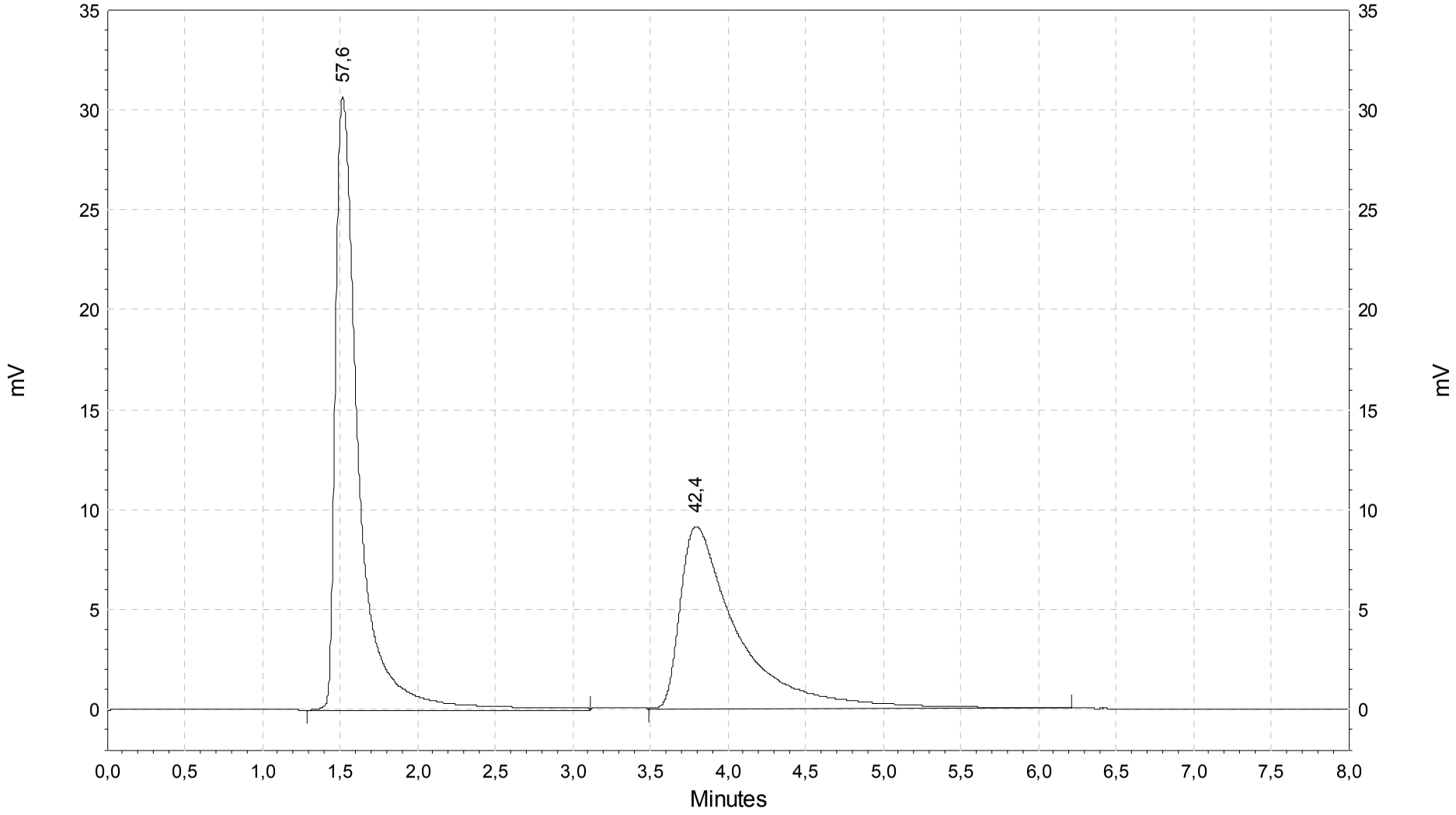
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=194 min



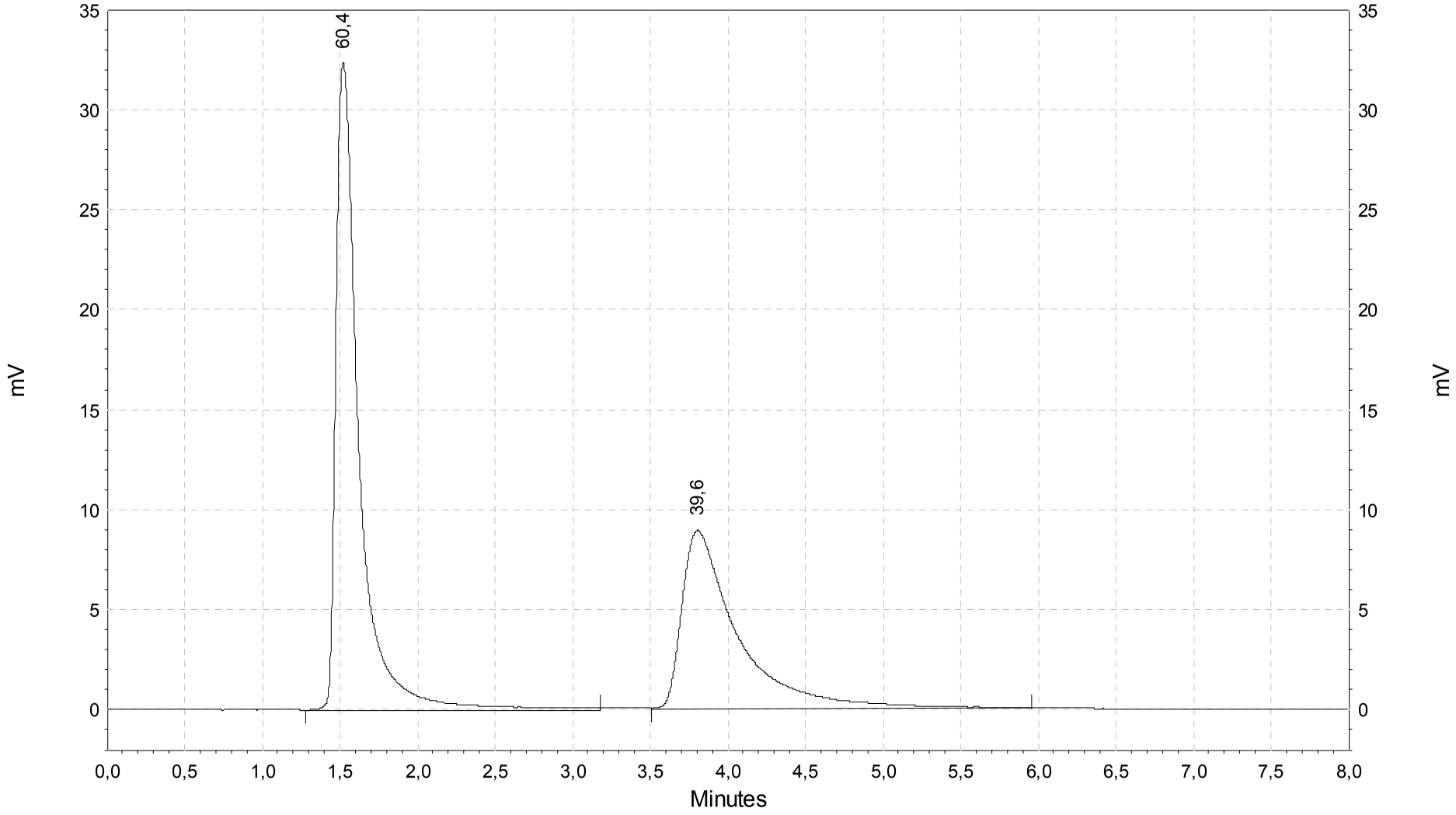
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=213 min



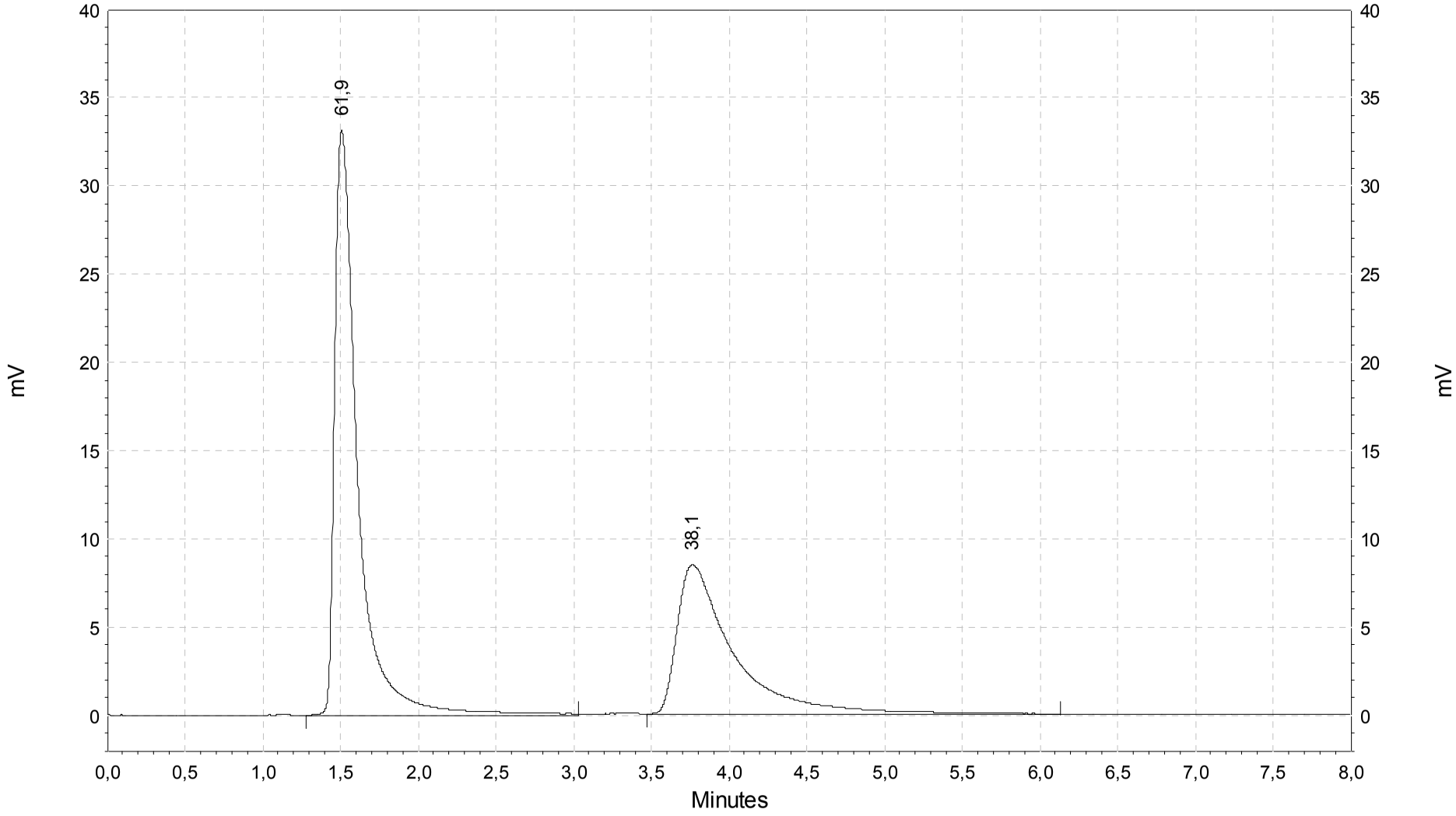
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=232 min



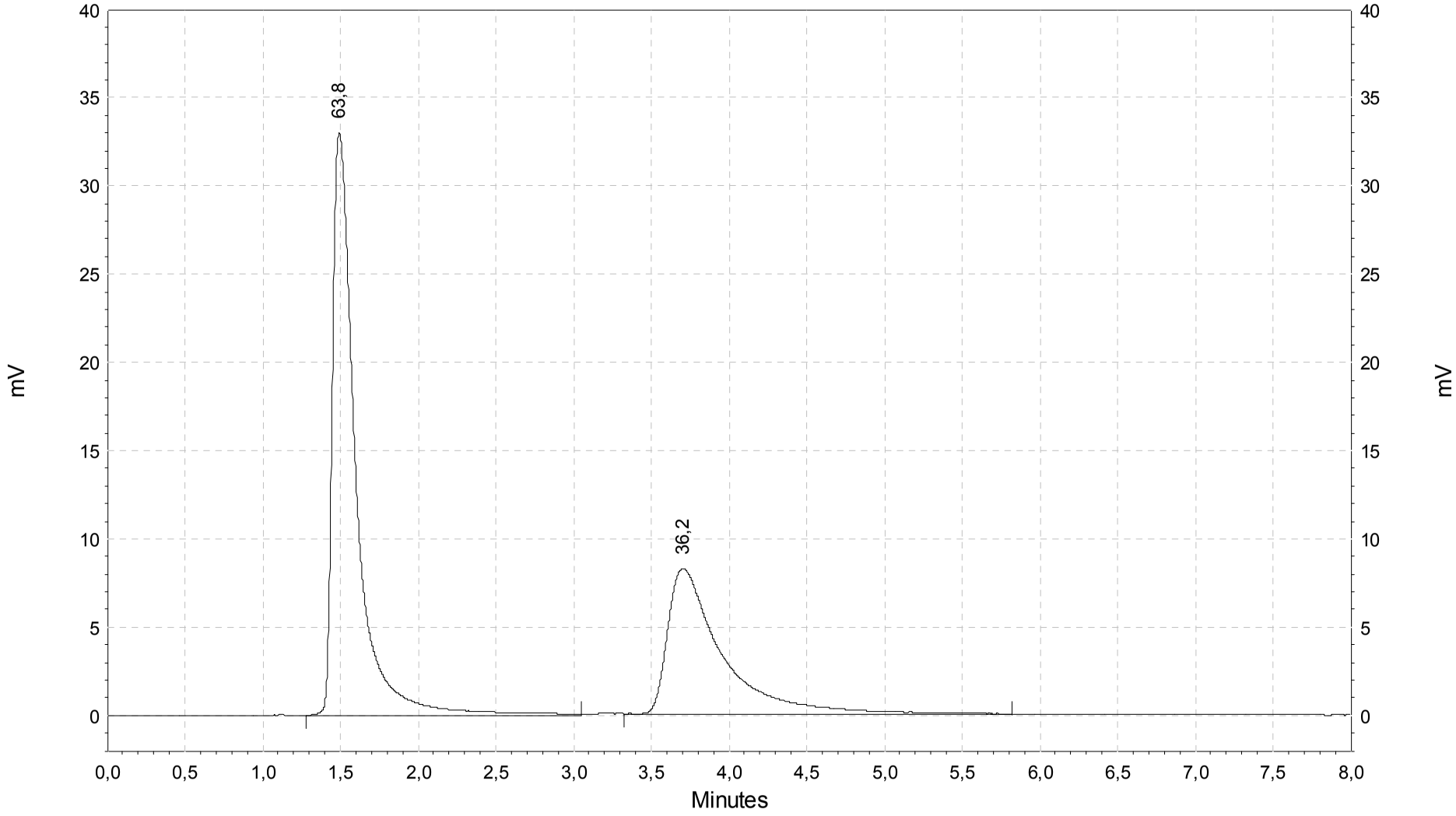
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=252 min



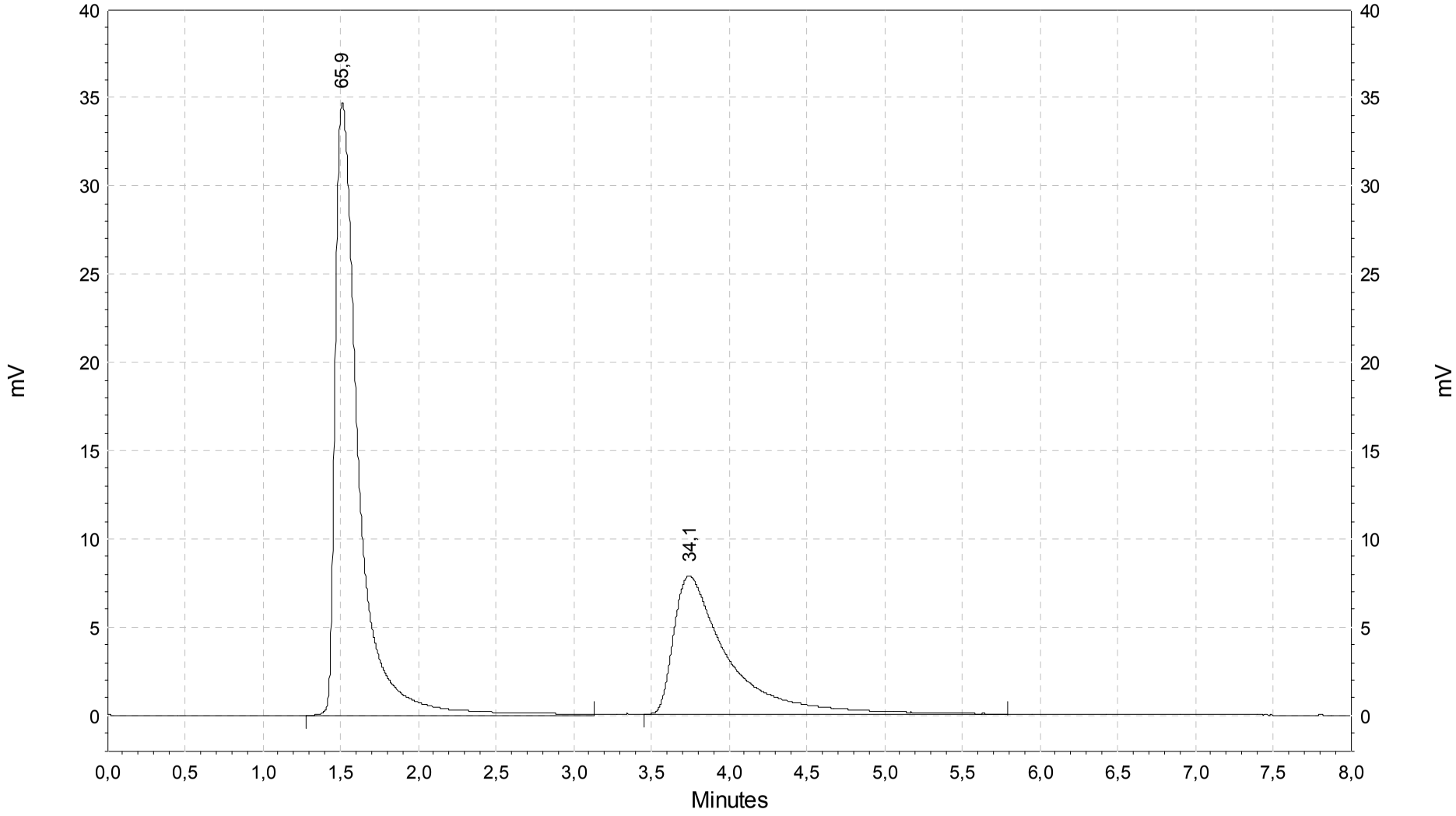
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=271 min



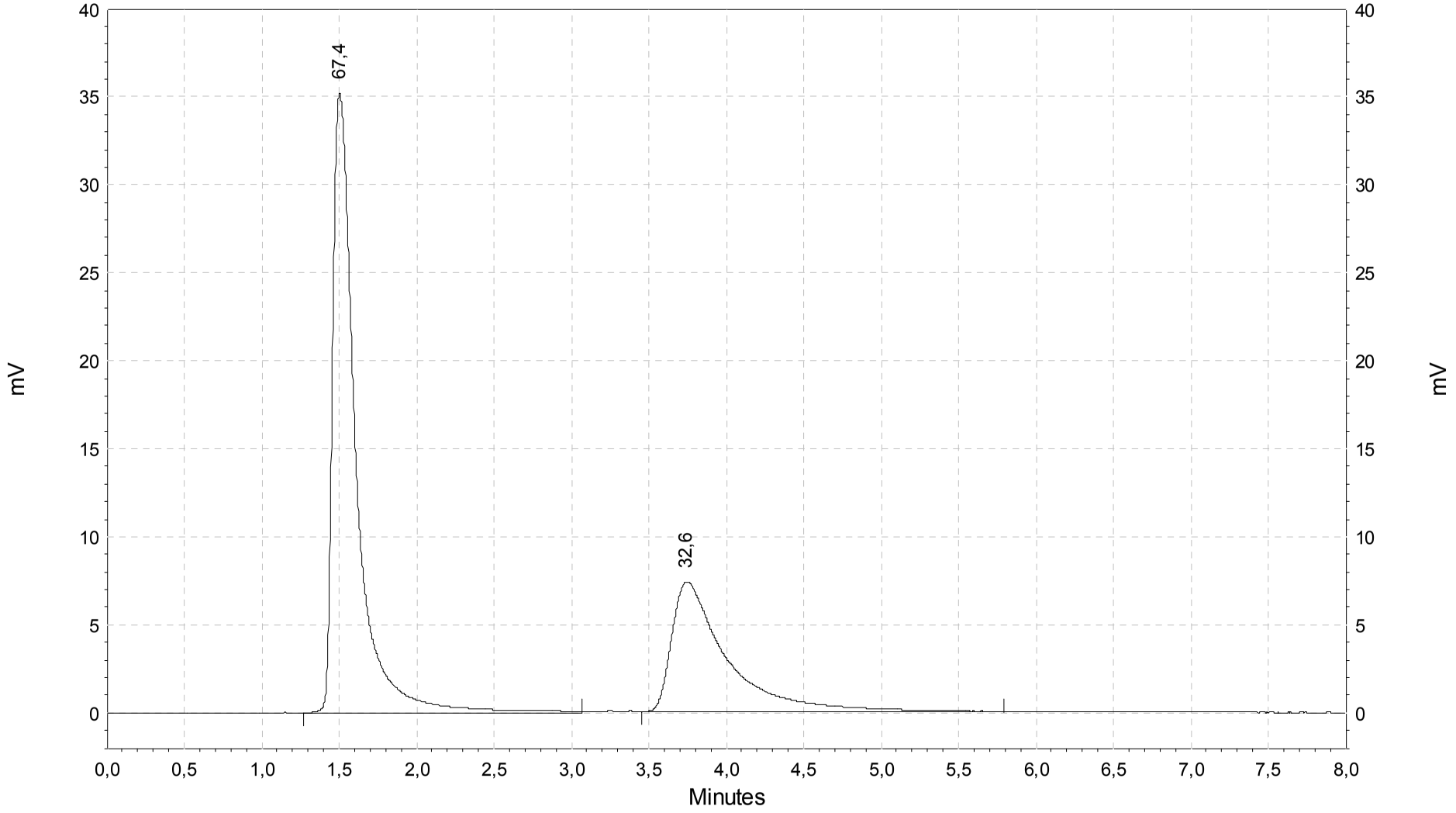
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=290 min



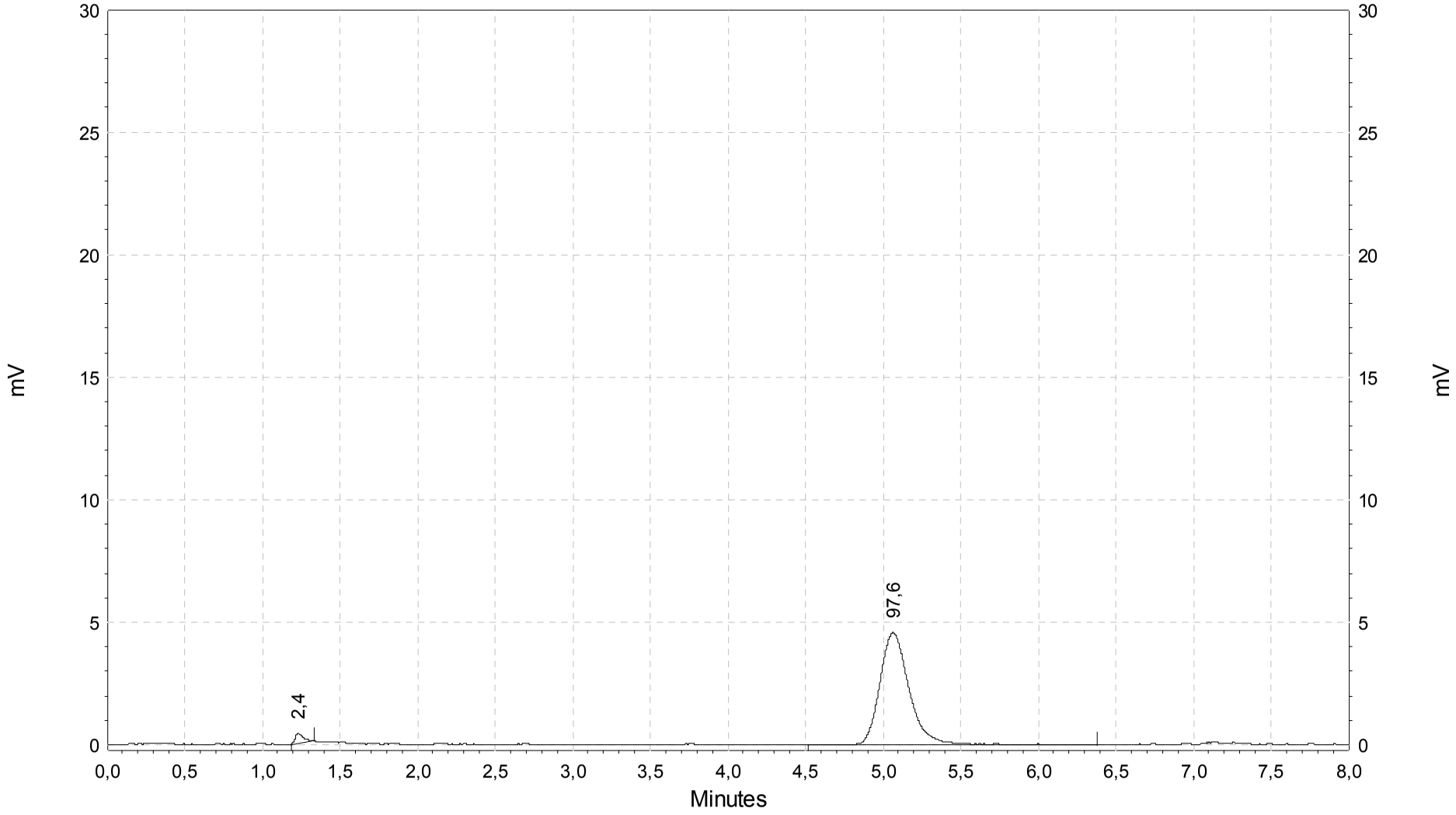
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for free TPT in tris buffer at pH=7.4
t=310 min



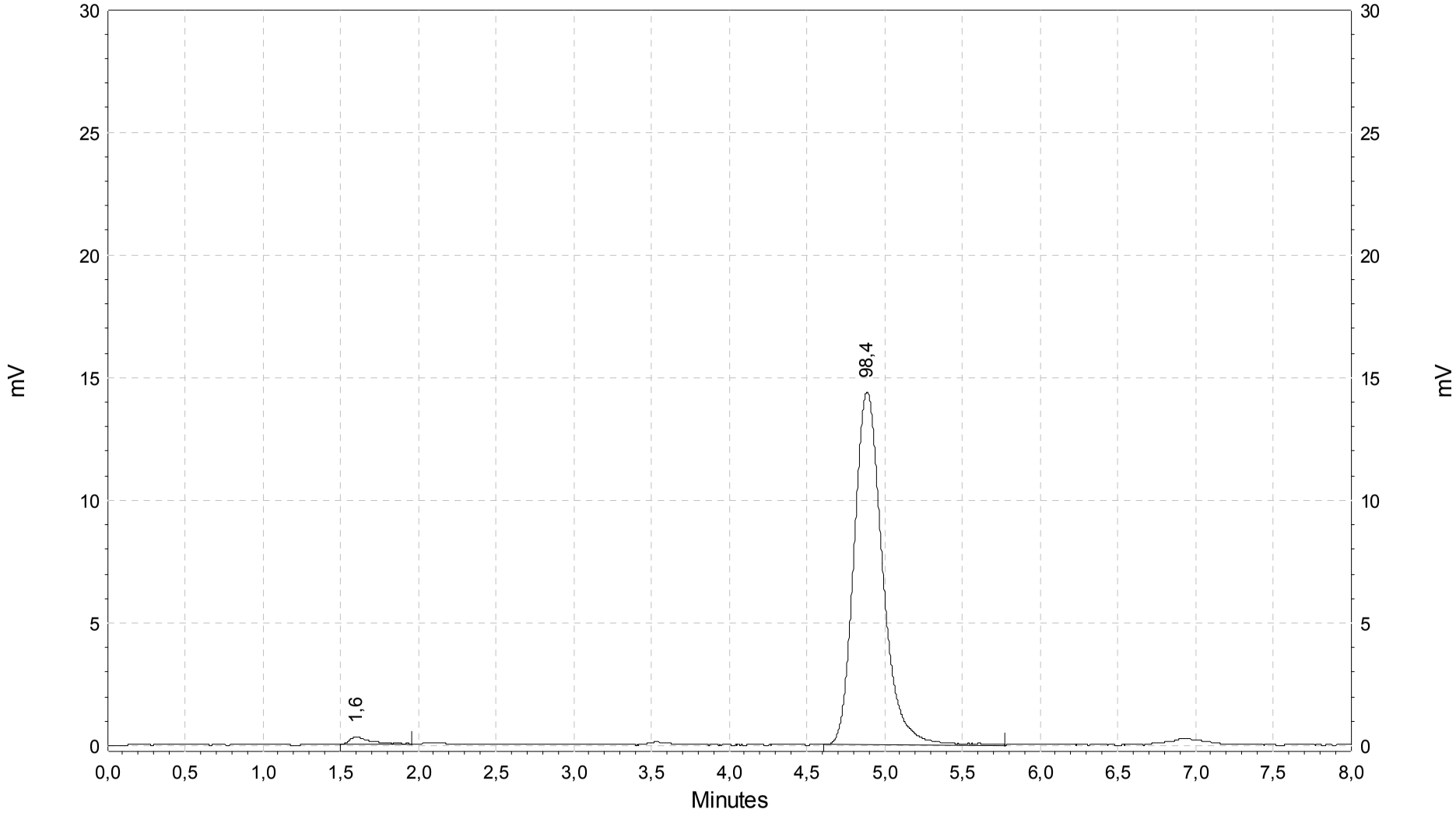
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 0 min



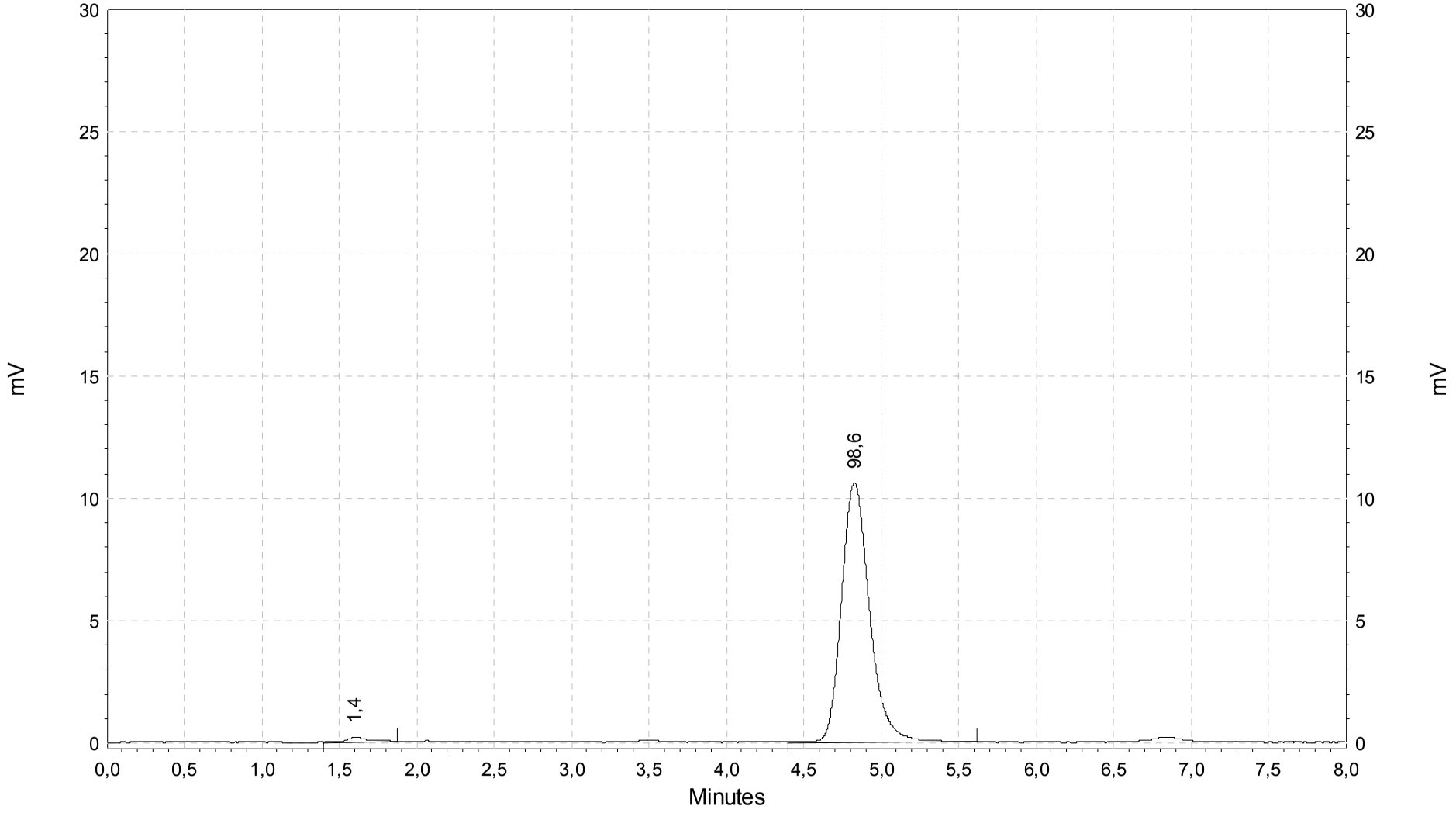
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 45 min



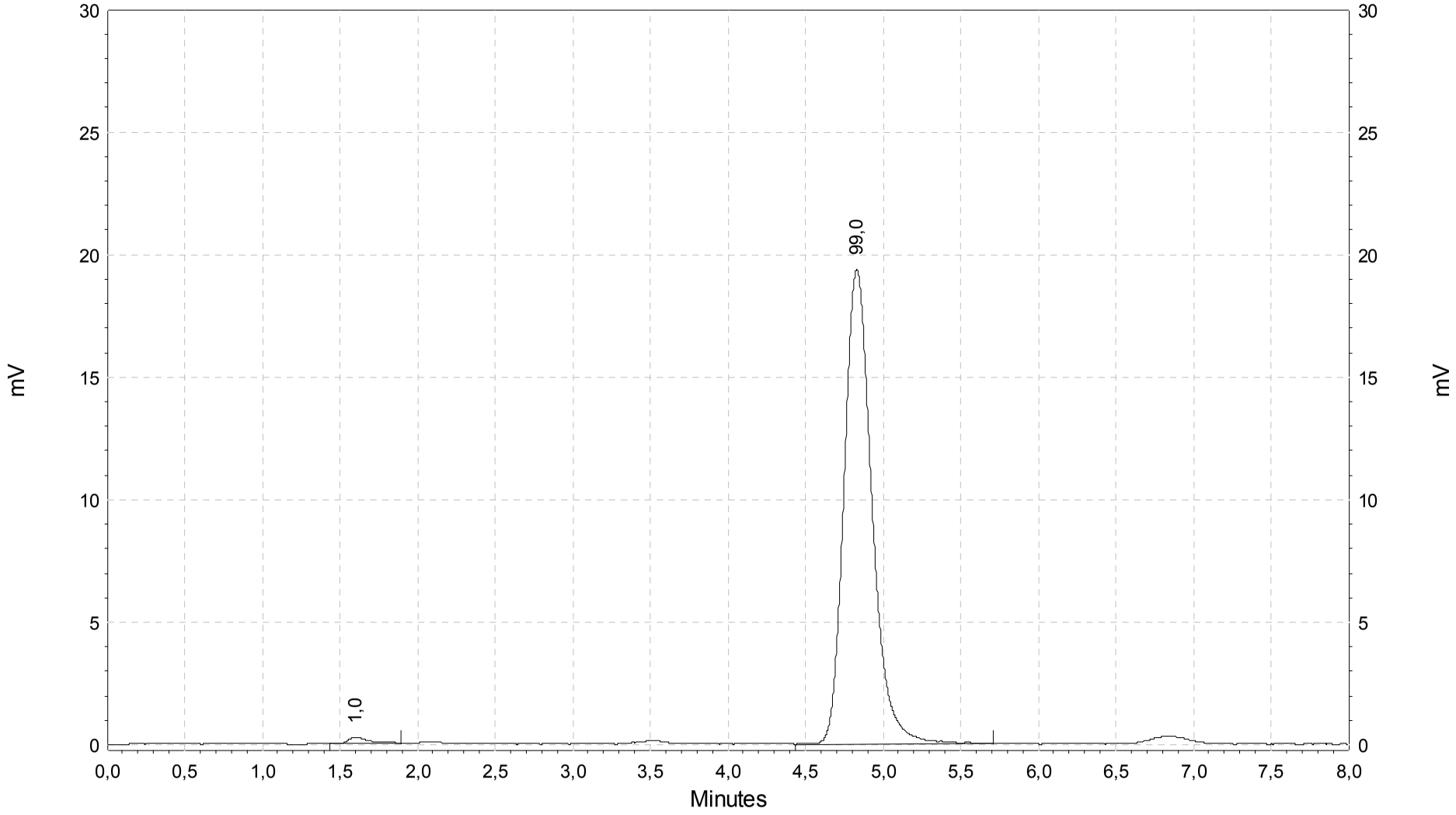
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 90 min



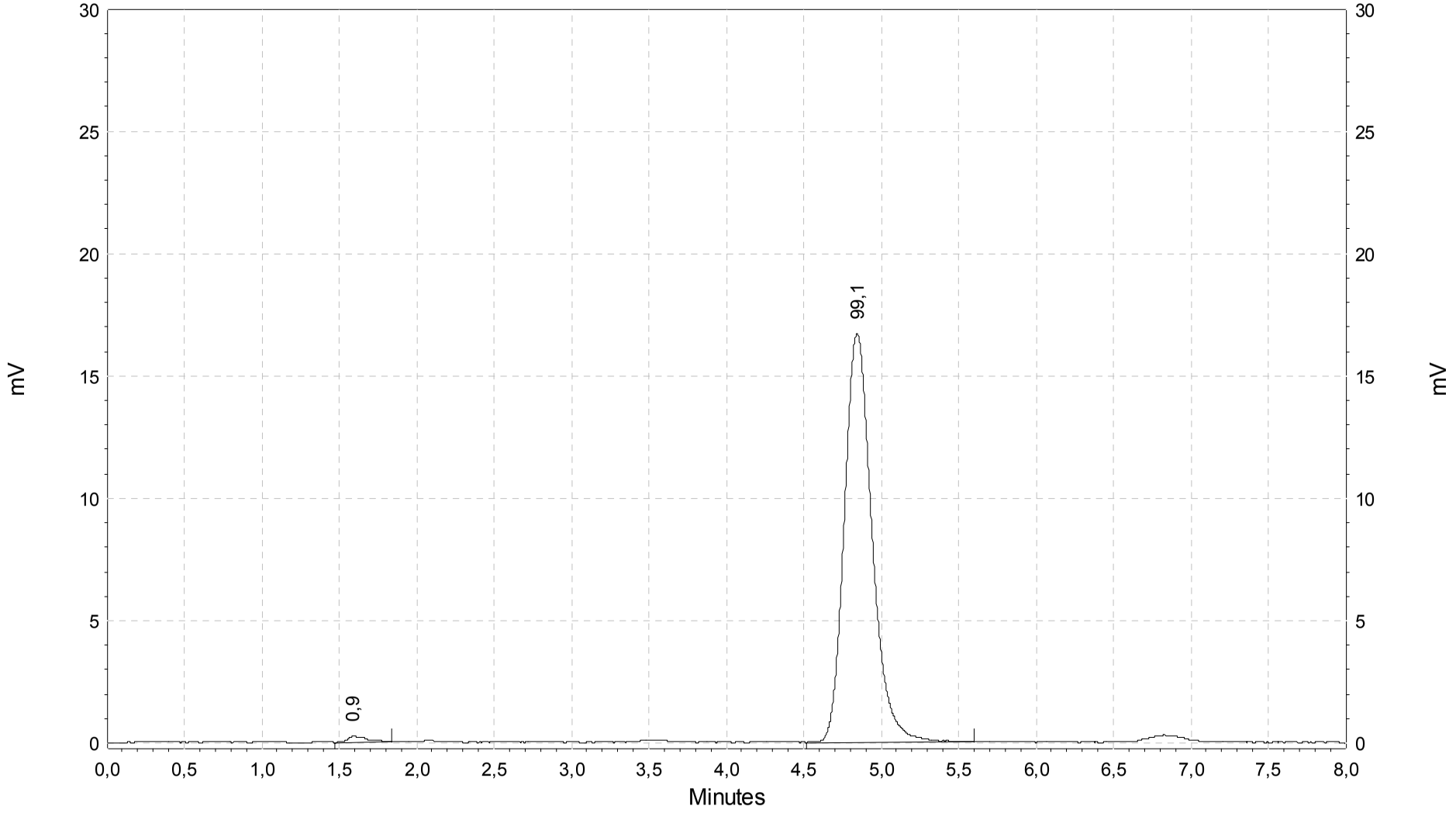
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 135 min



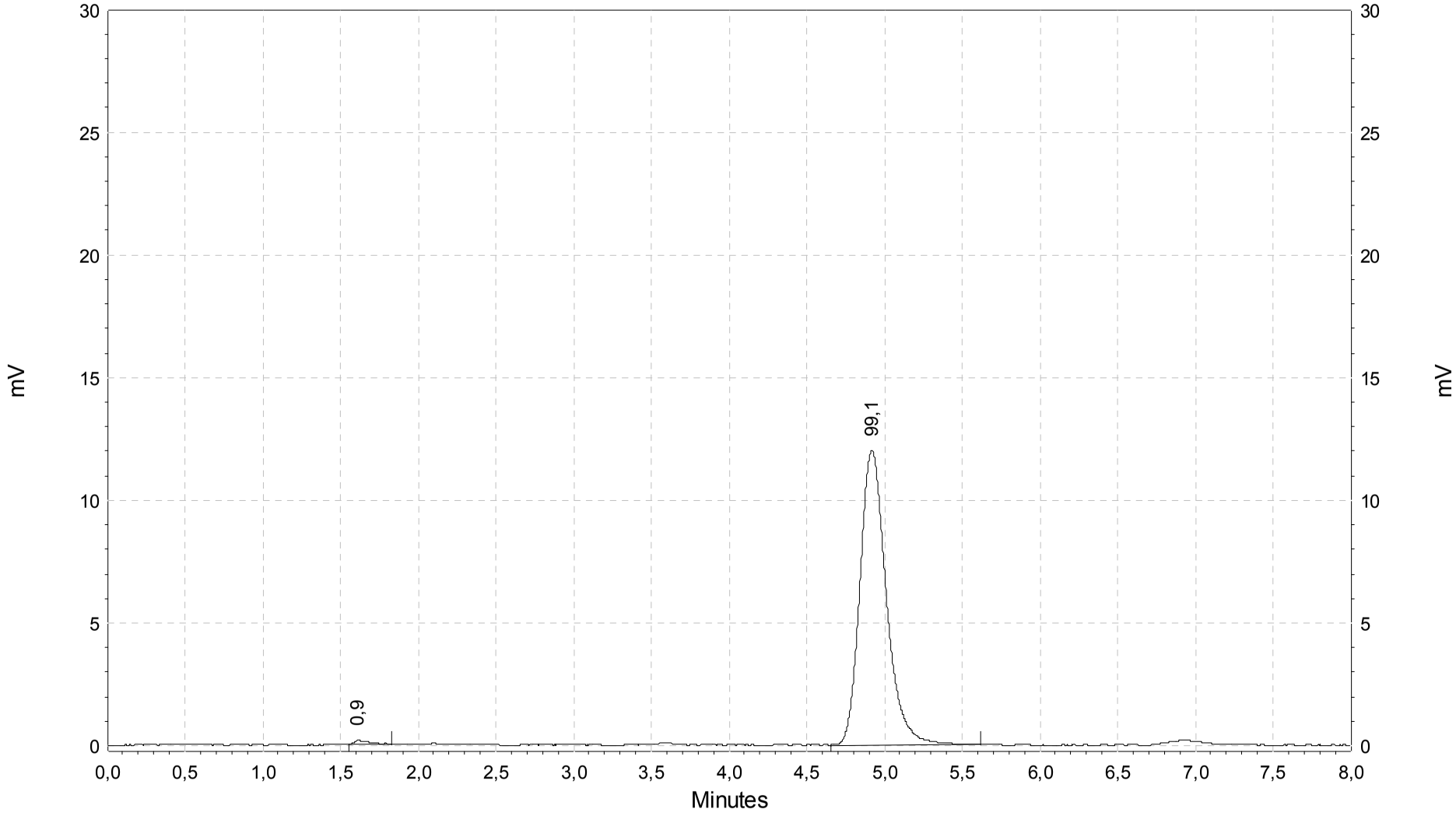
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 180 min



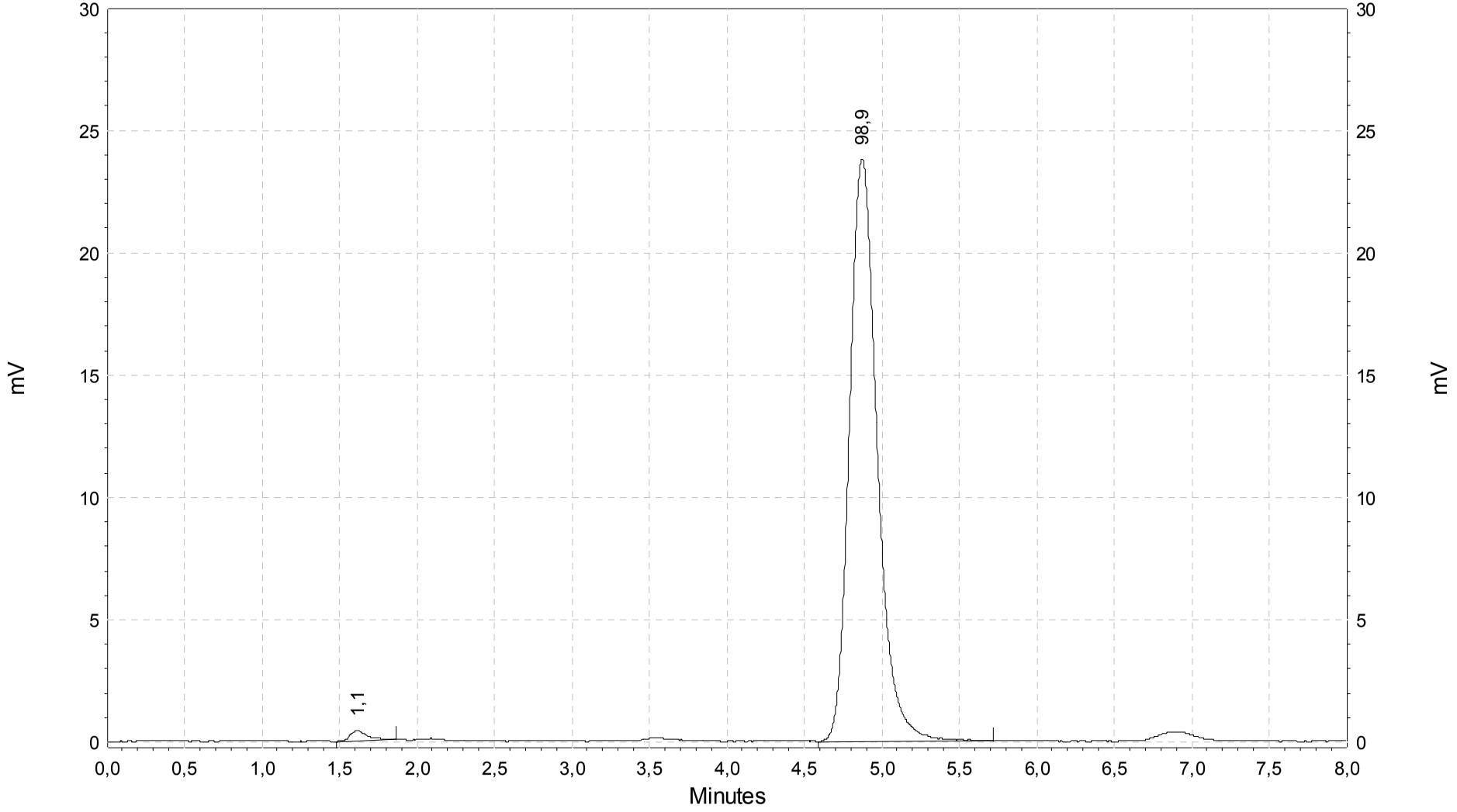
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 225 min



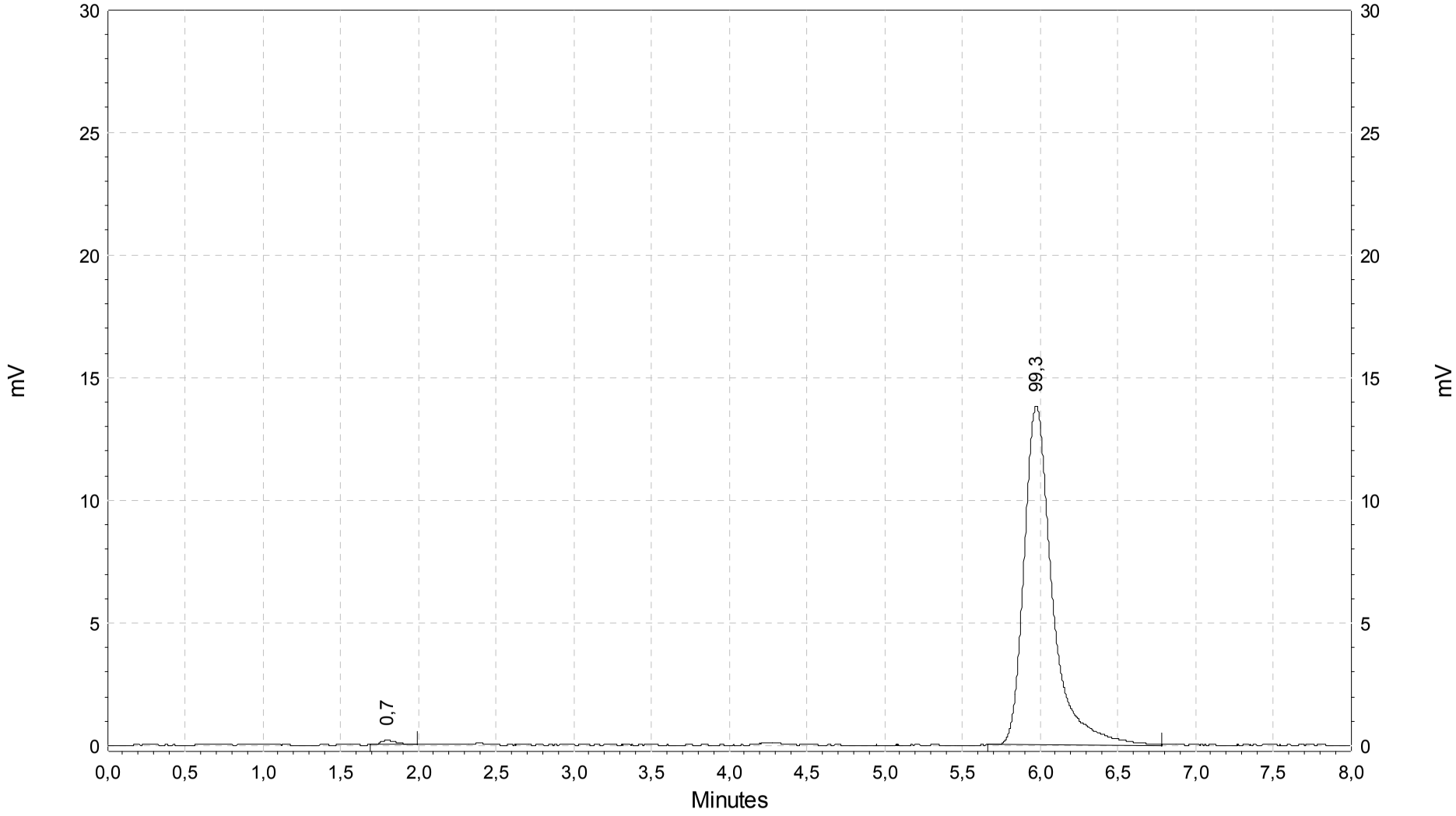
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 270 min



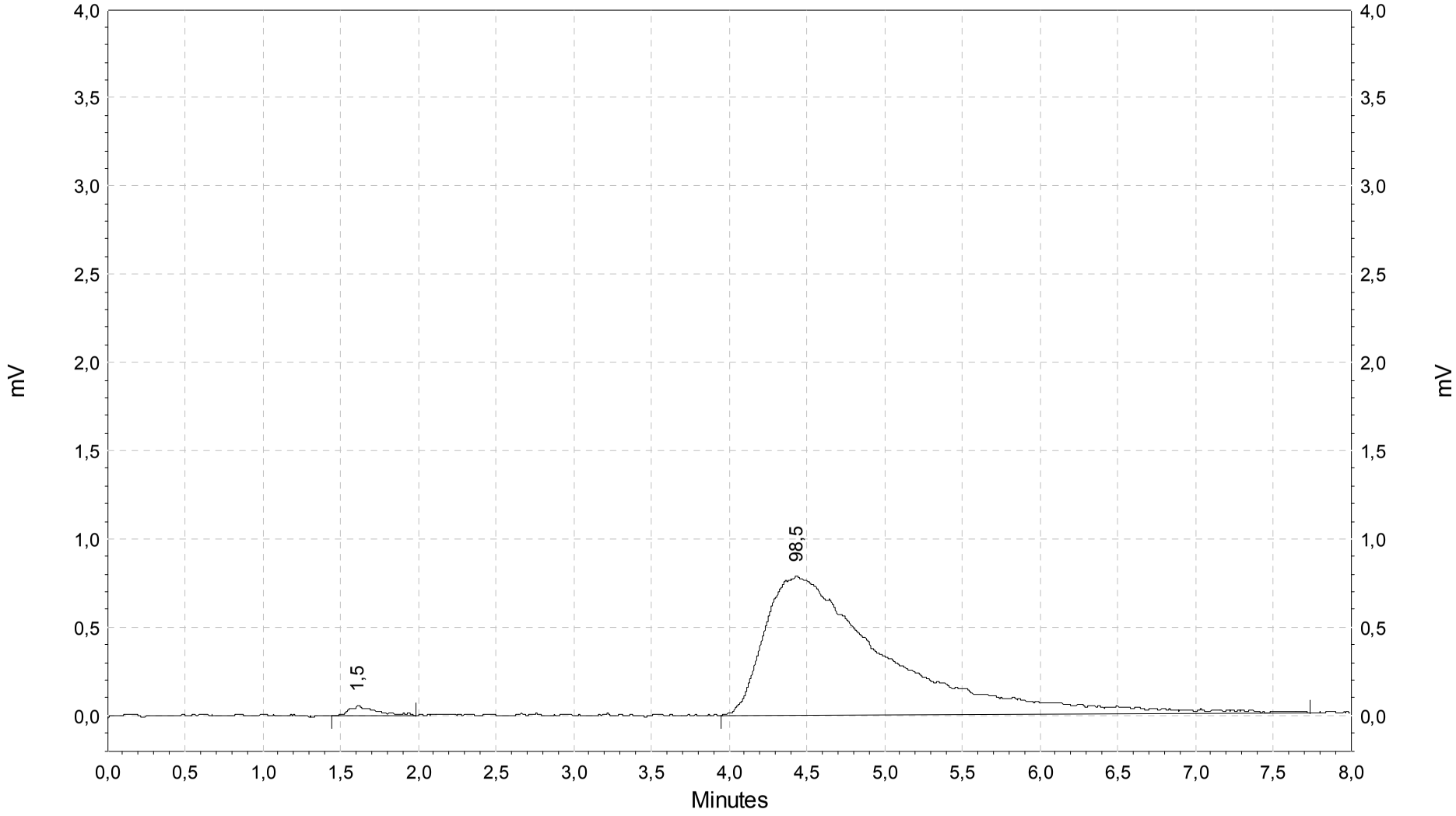
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 0.015% loading
t= 315 min



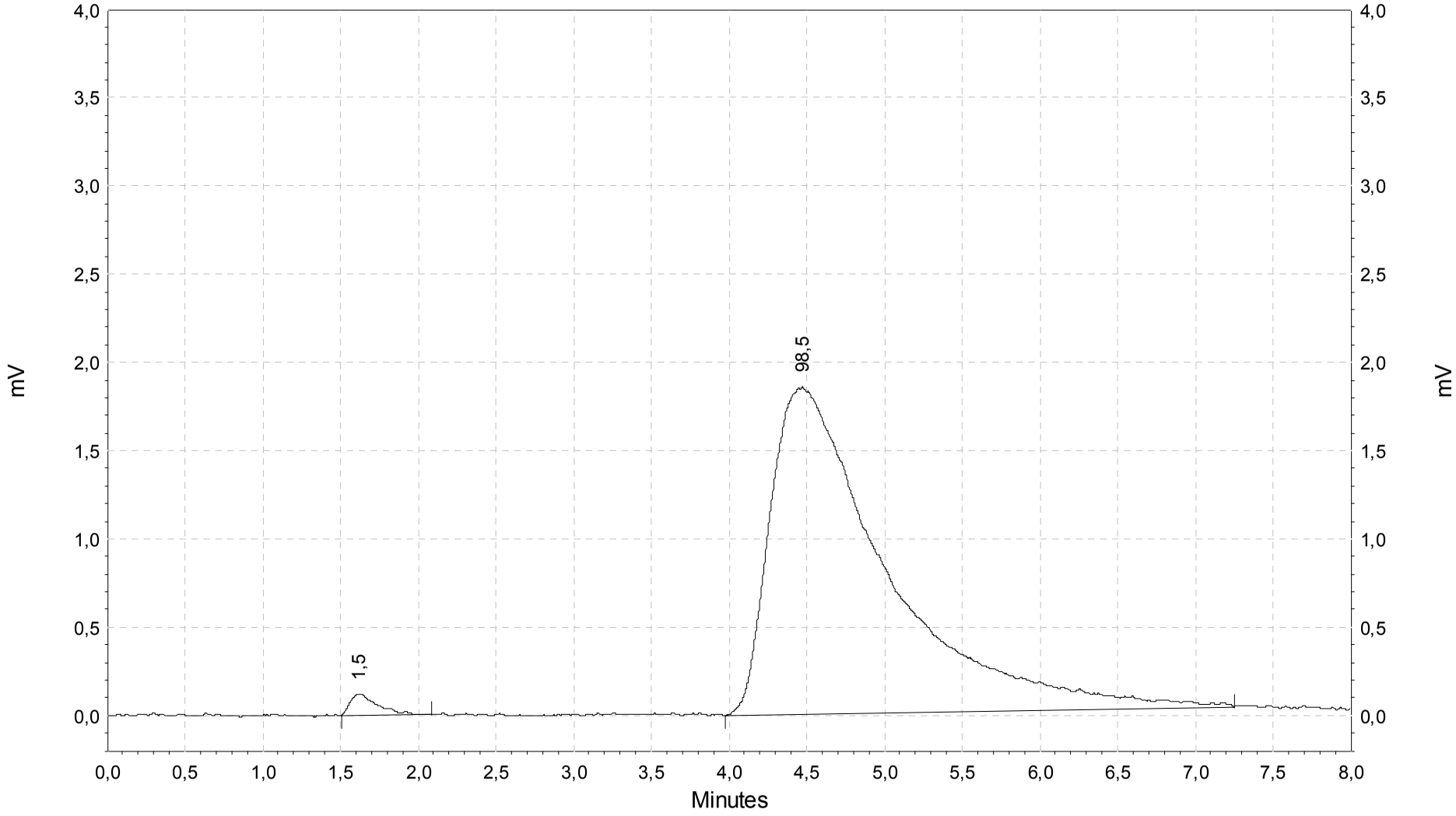
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for TPT in gel at 0.015% loading
t= 0 min



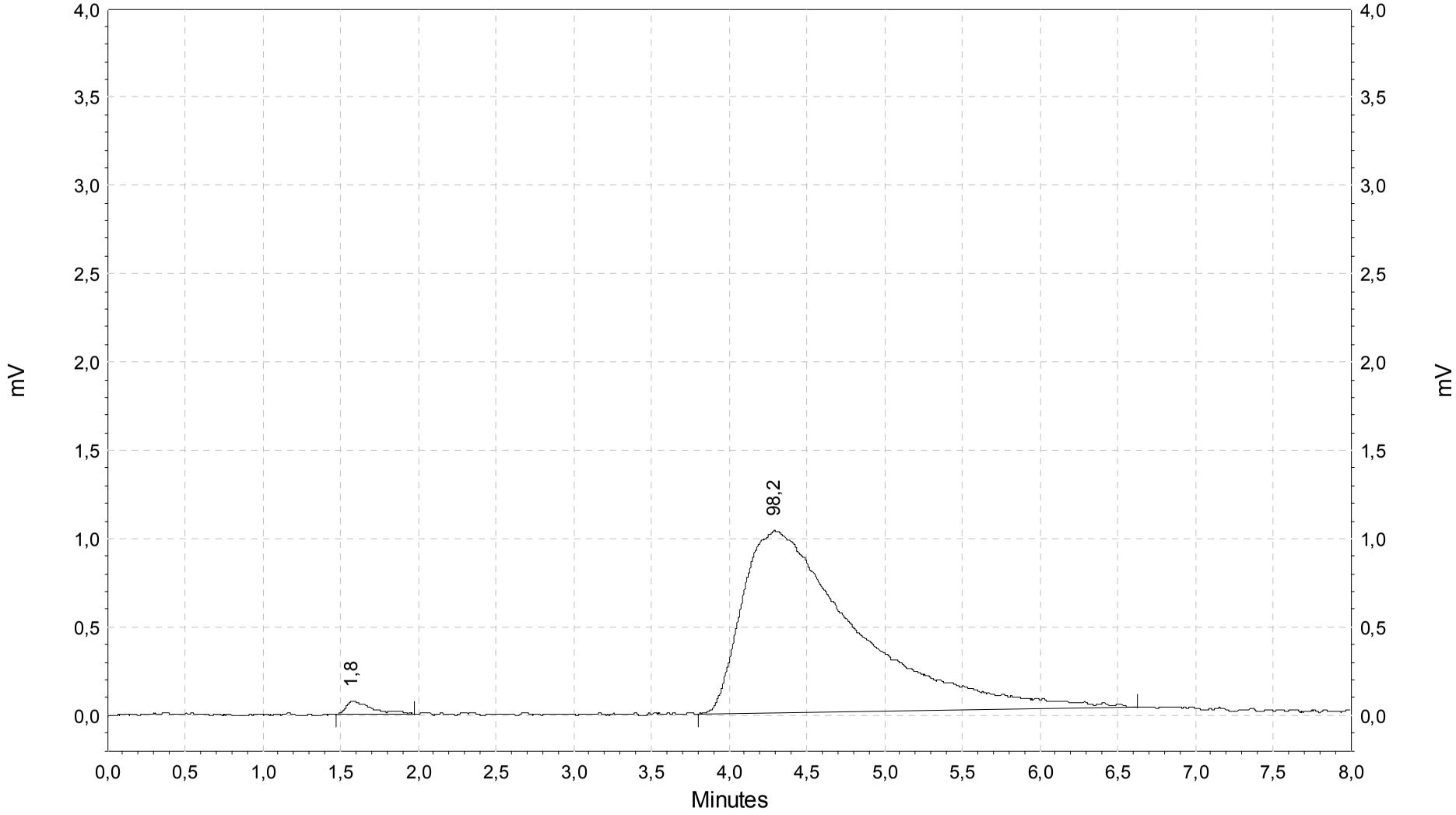
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for TPT in gel at 0.015% loading
t= 45 min



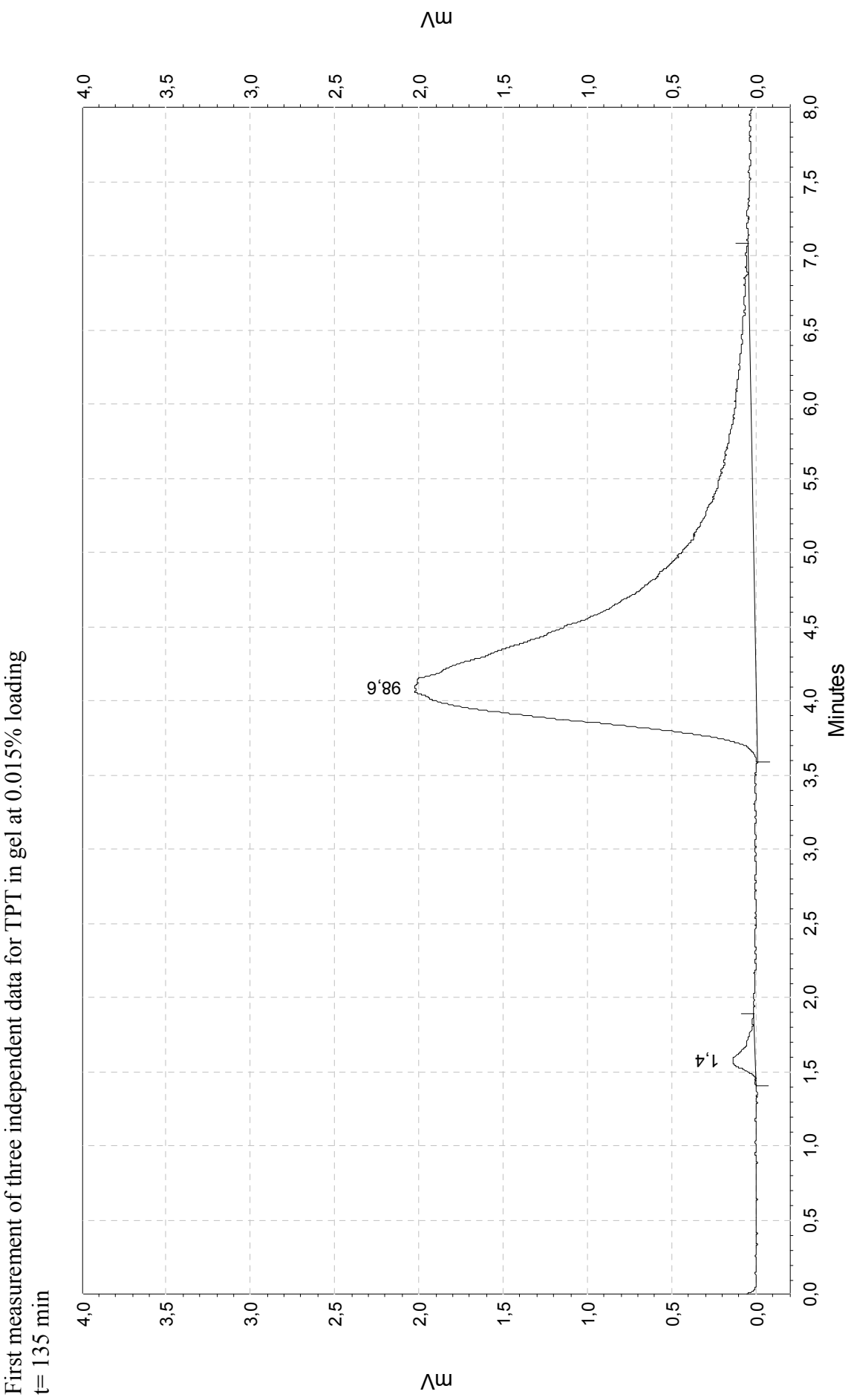
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for TPT in gel at 0.015% loading
t= 90 min



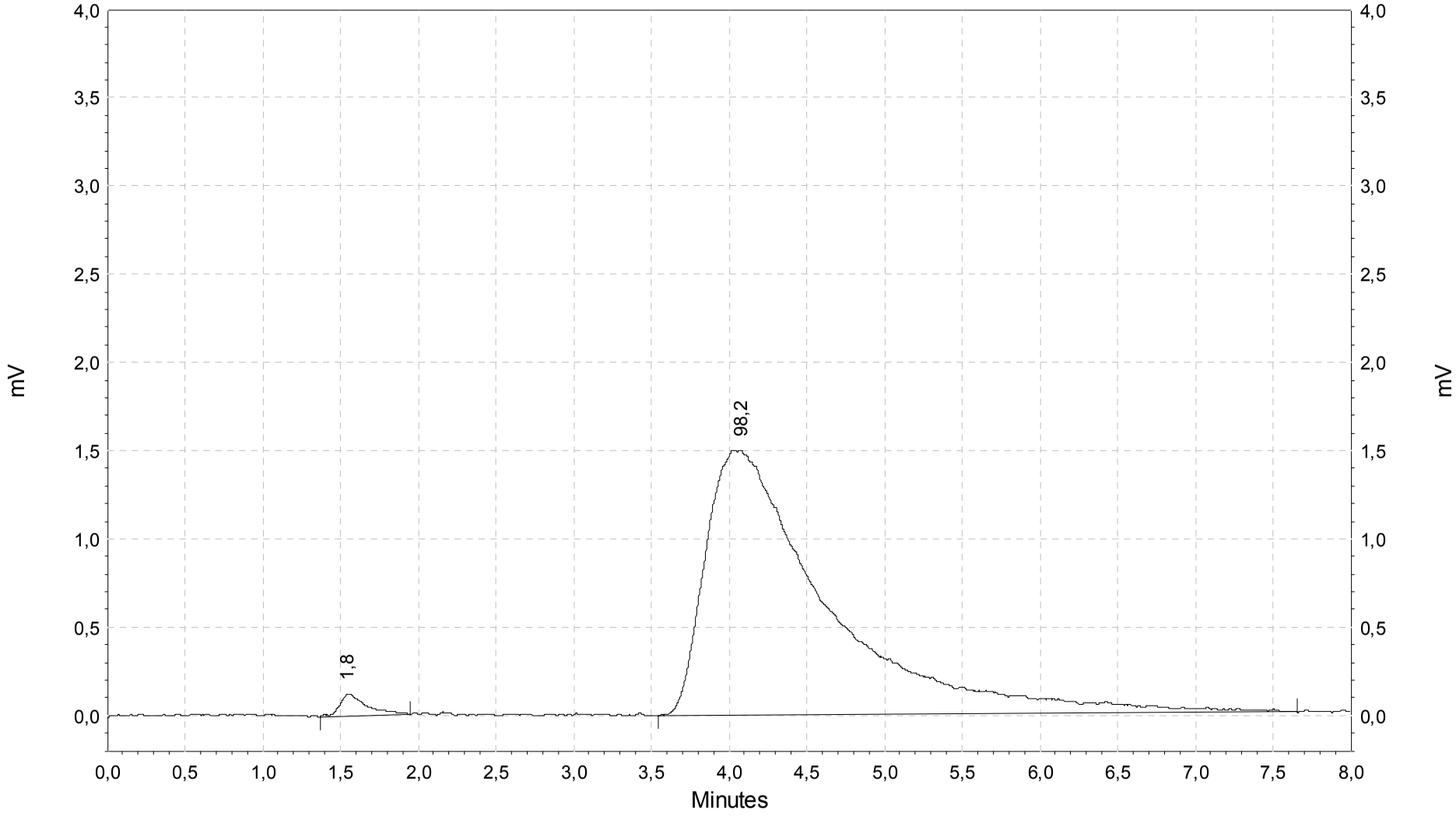
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



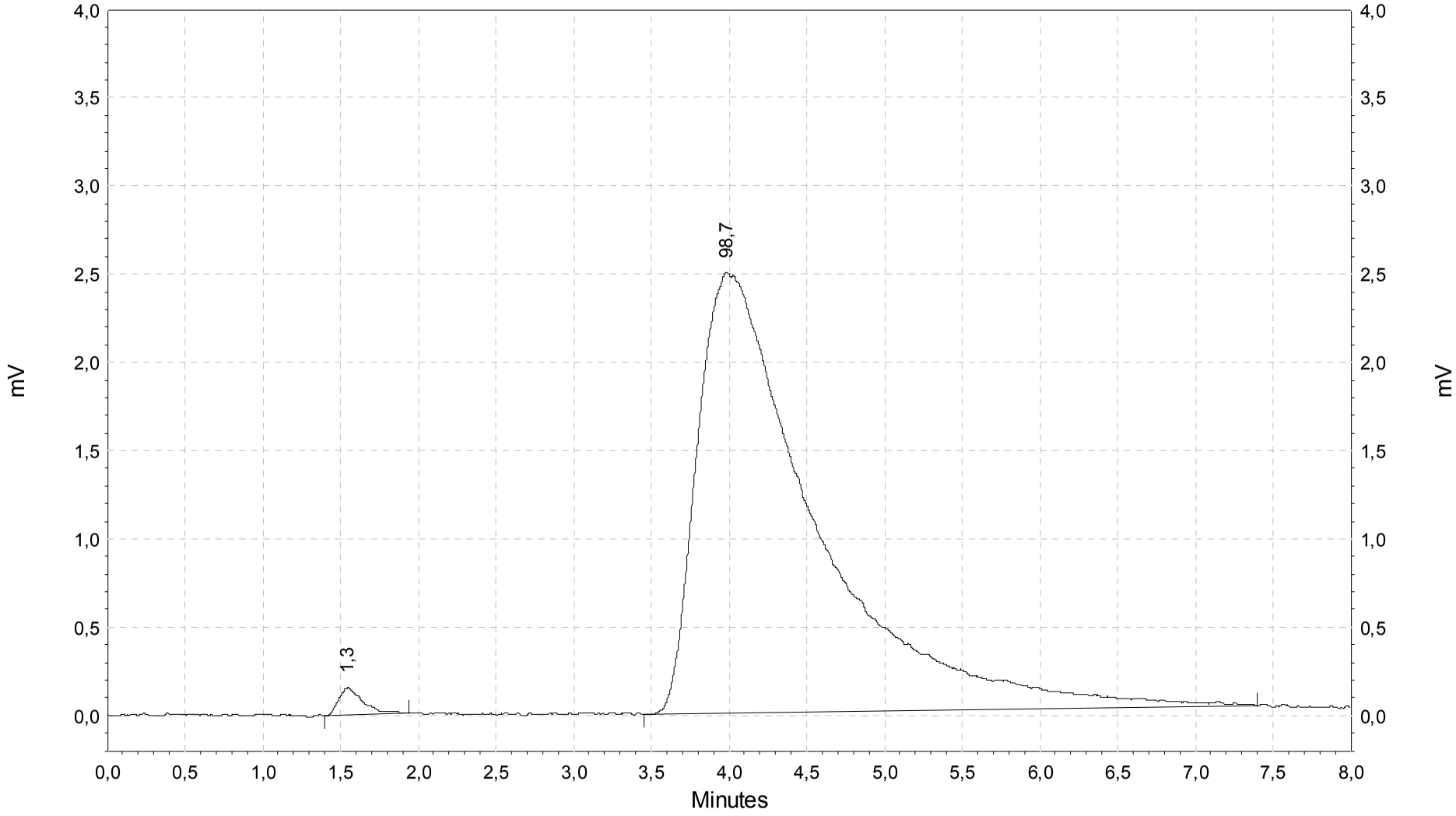
First measurement of three independent data for TPT in gel at 0.015% loading
t= 135 min

First measurement of three independent data for TPT in gel at 0.015% loading
t= 180 min



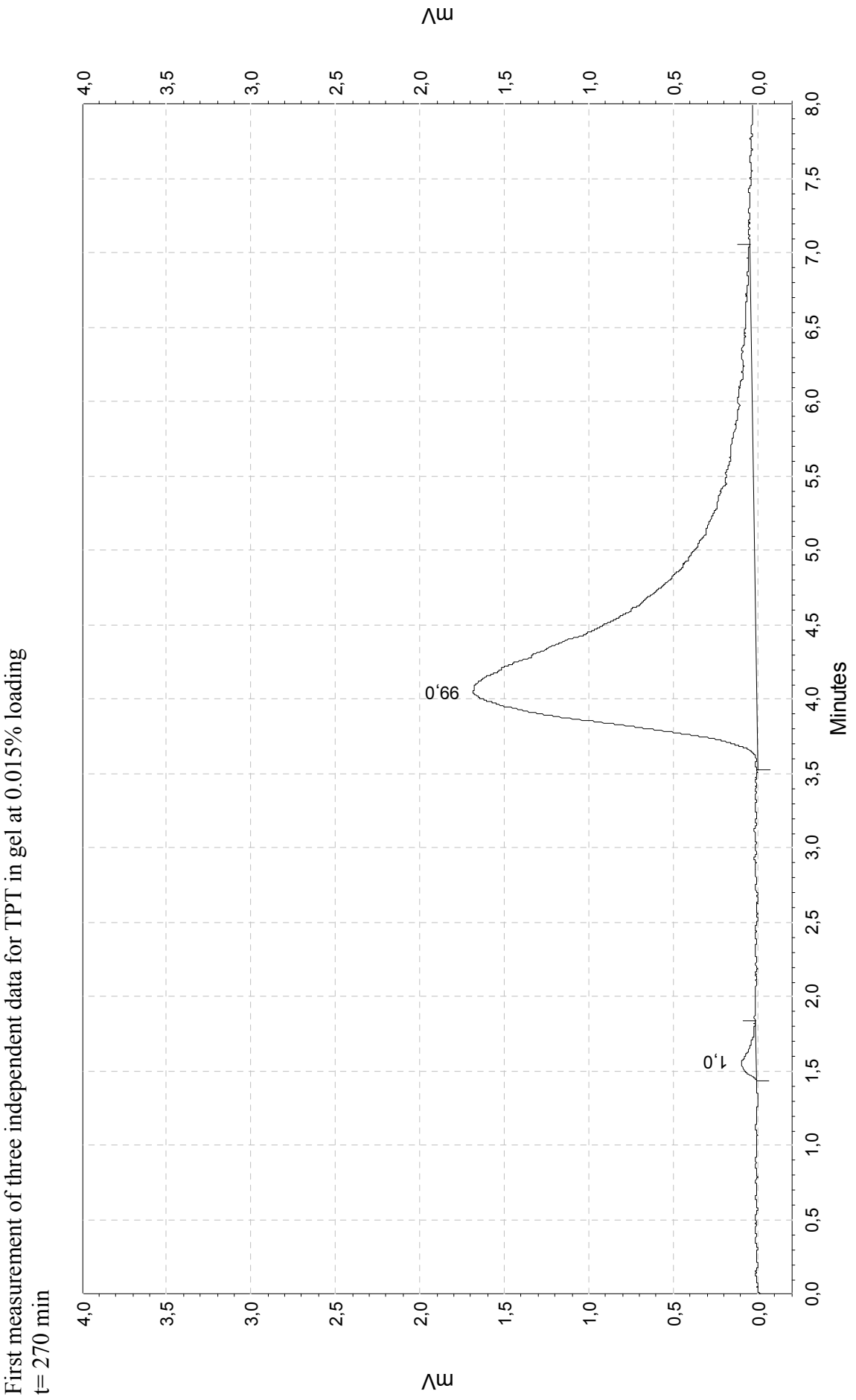
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for TPT in gel at 0.015% loading
t= 225 min



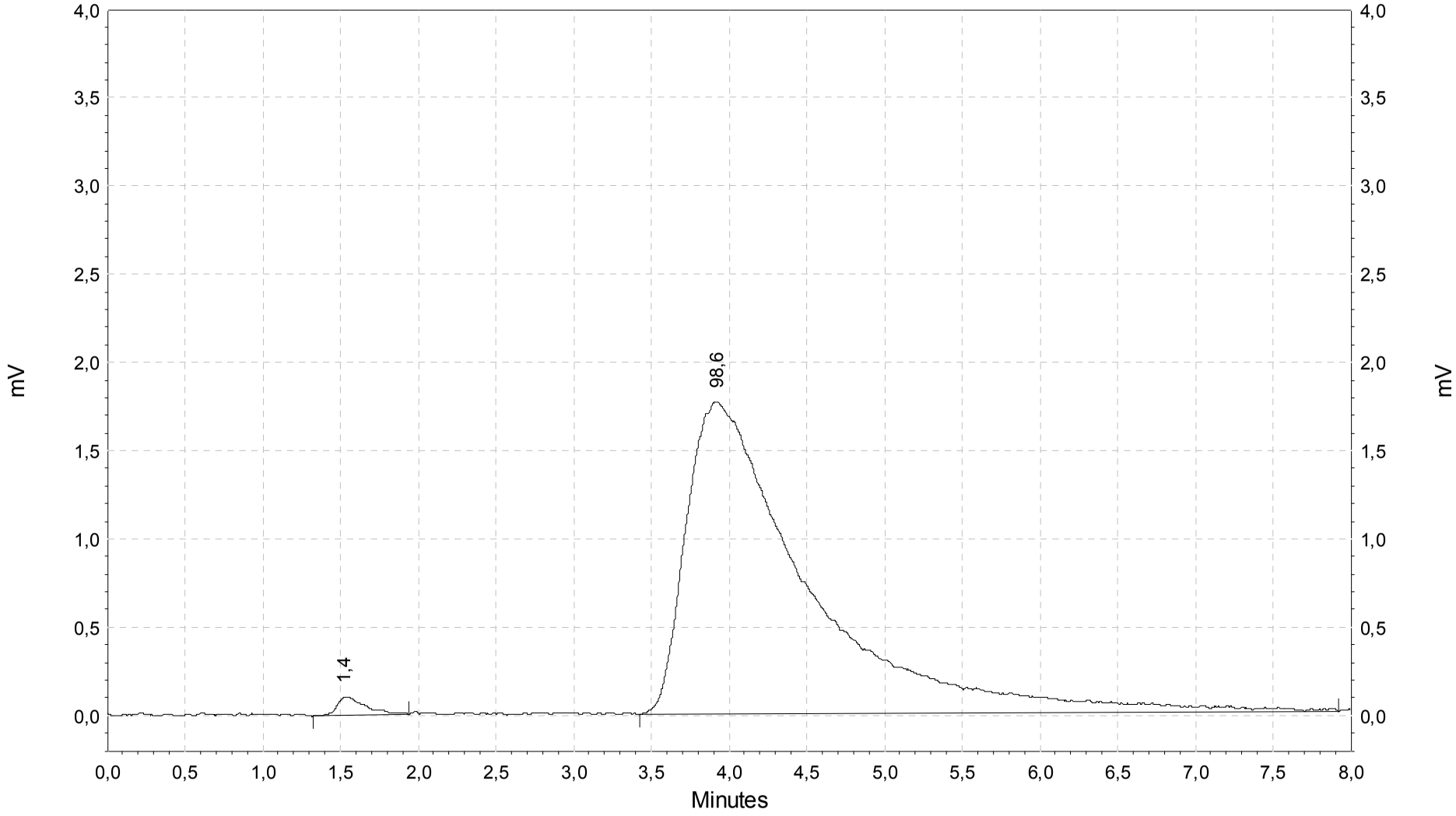
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

This journal is © The Royal Society of Chemistry 2011



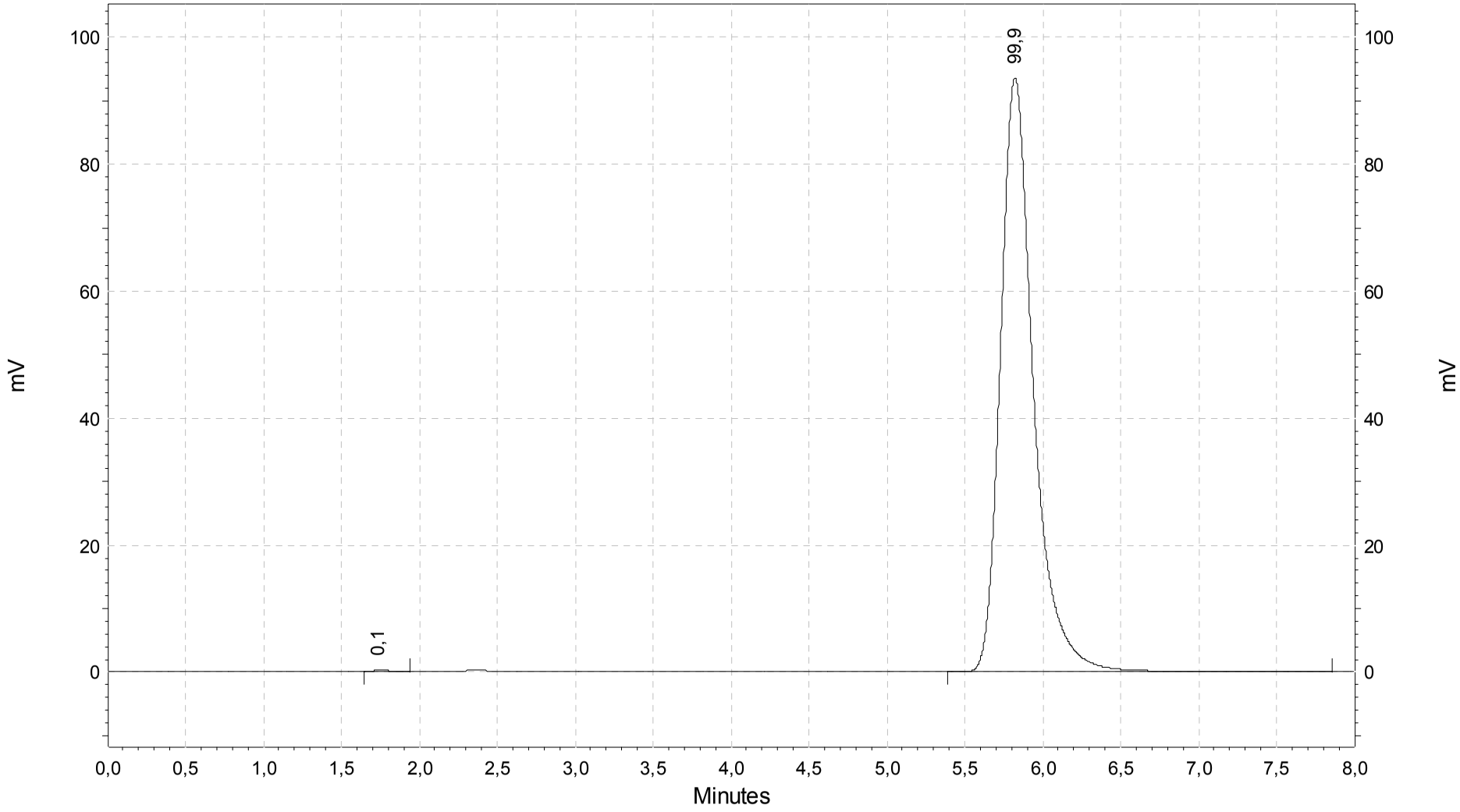
First measurement of three independent data for TPT in gel at 0.015% loading
t= 270 min

First measurement of three independent data for TPT in gel at 0.015% loading
t= 315 min

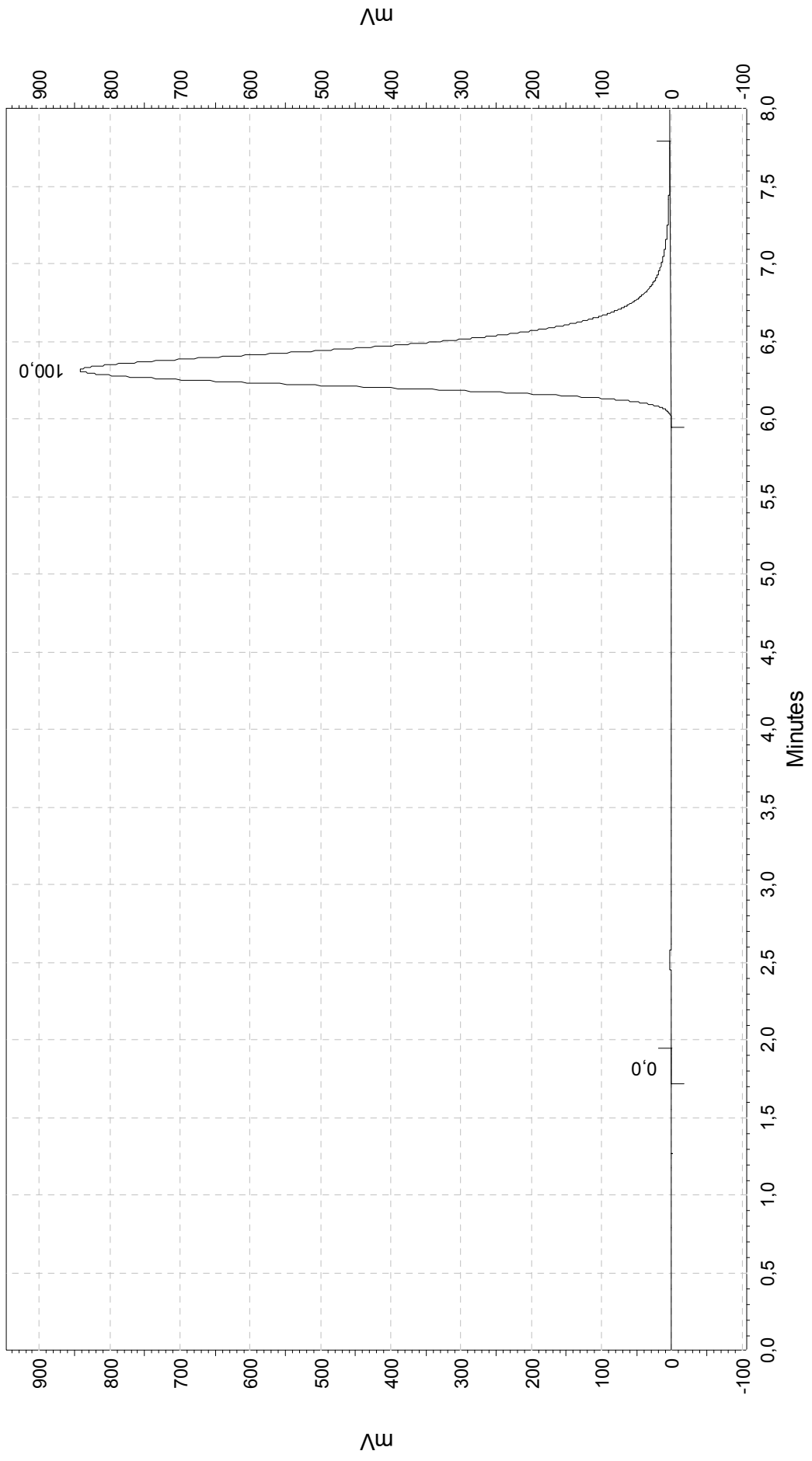


Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for CPT in gel at 1.0% loading (representative example)
t= 120 min



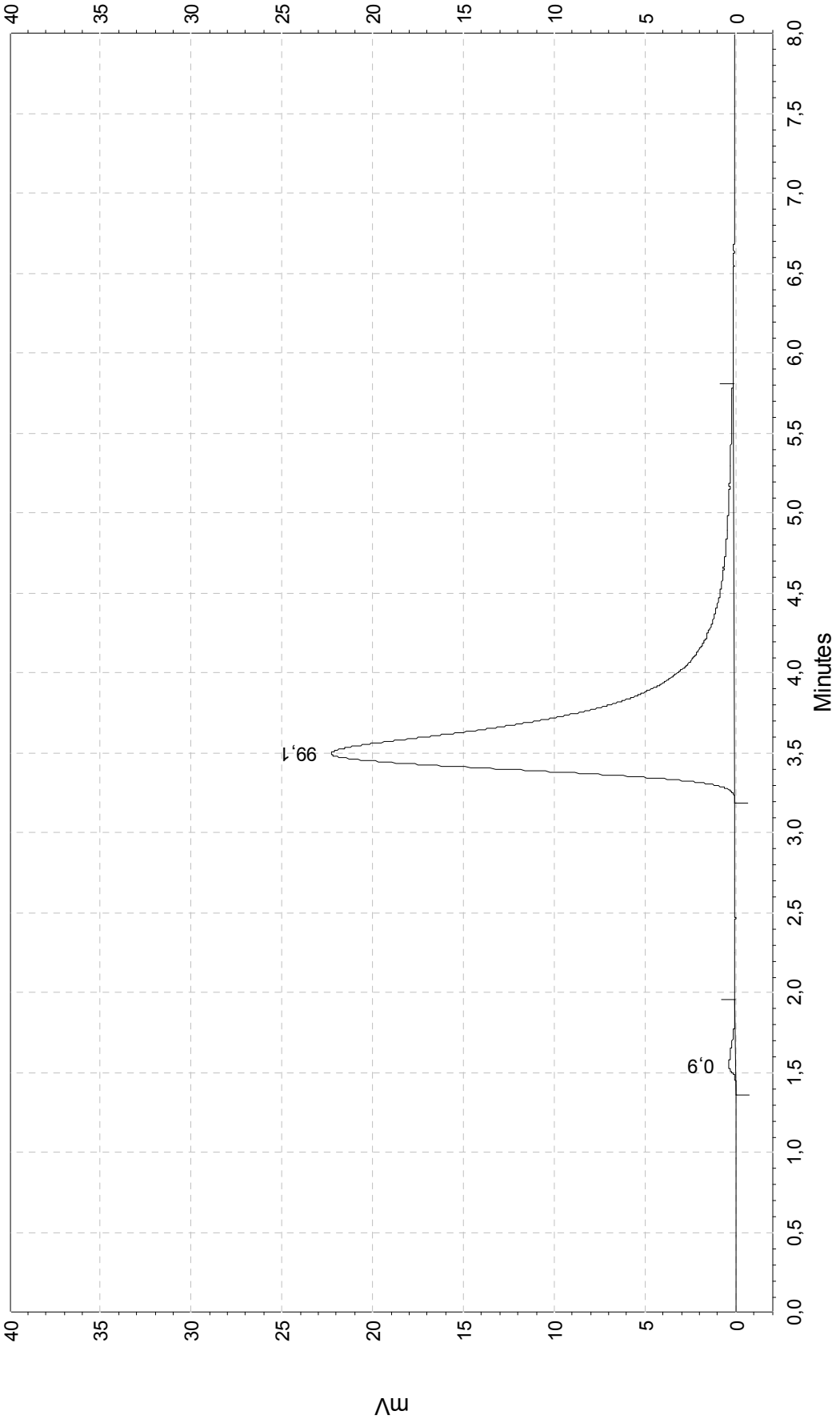
Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011



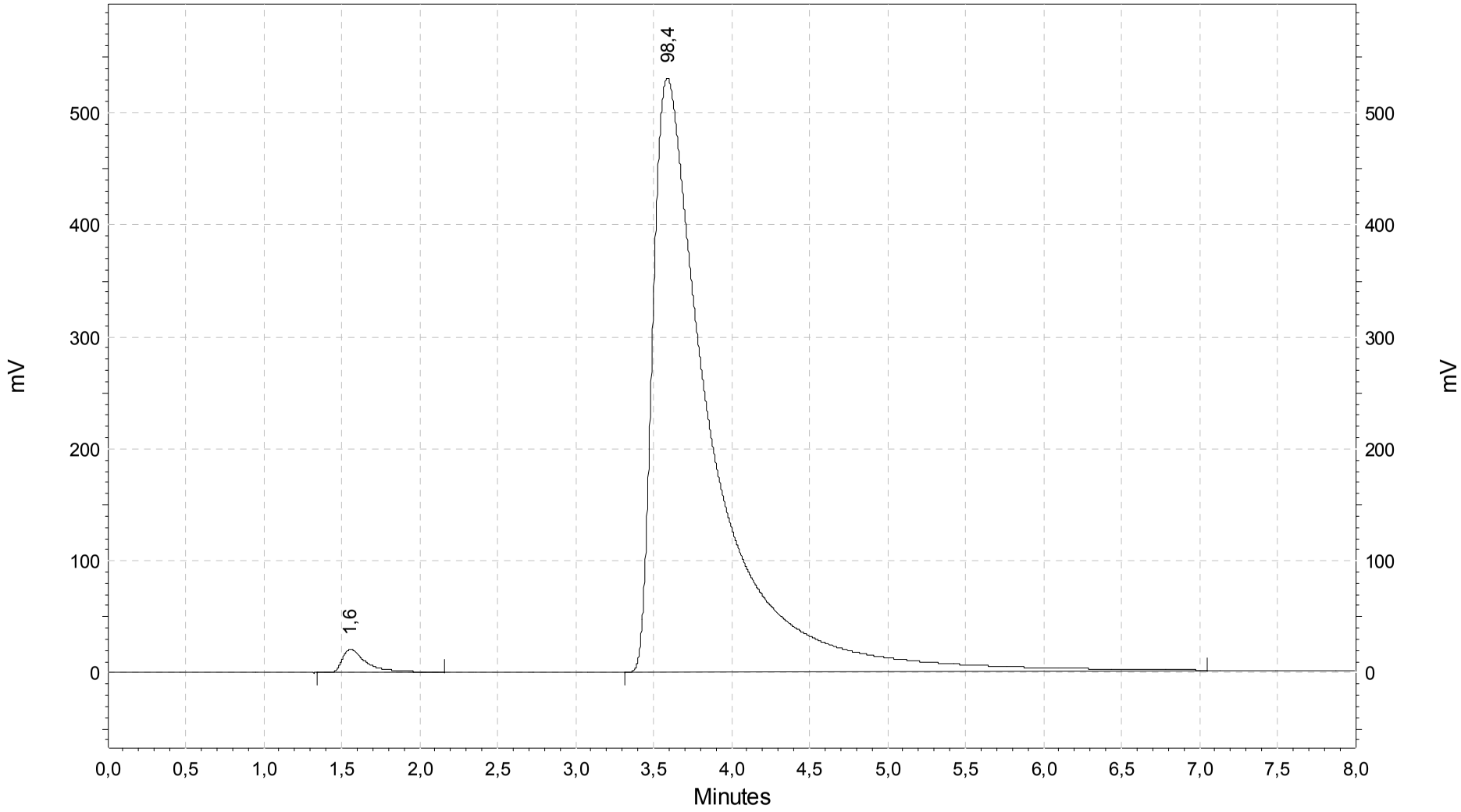
First measurement of three independent data for CPT in gel at 10.0% loading (representative example)
t= 120 min

This journal is © The Royal Society of Chemistry 2011

First measurement of three independent data for TPT in gel at 1.0% loading (representative example)
t= 120 min

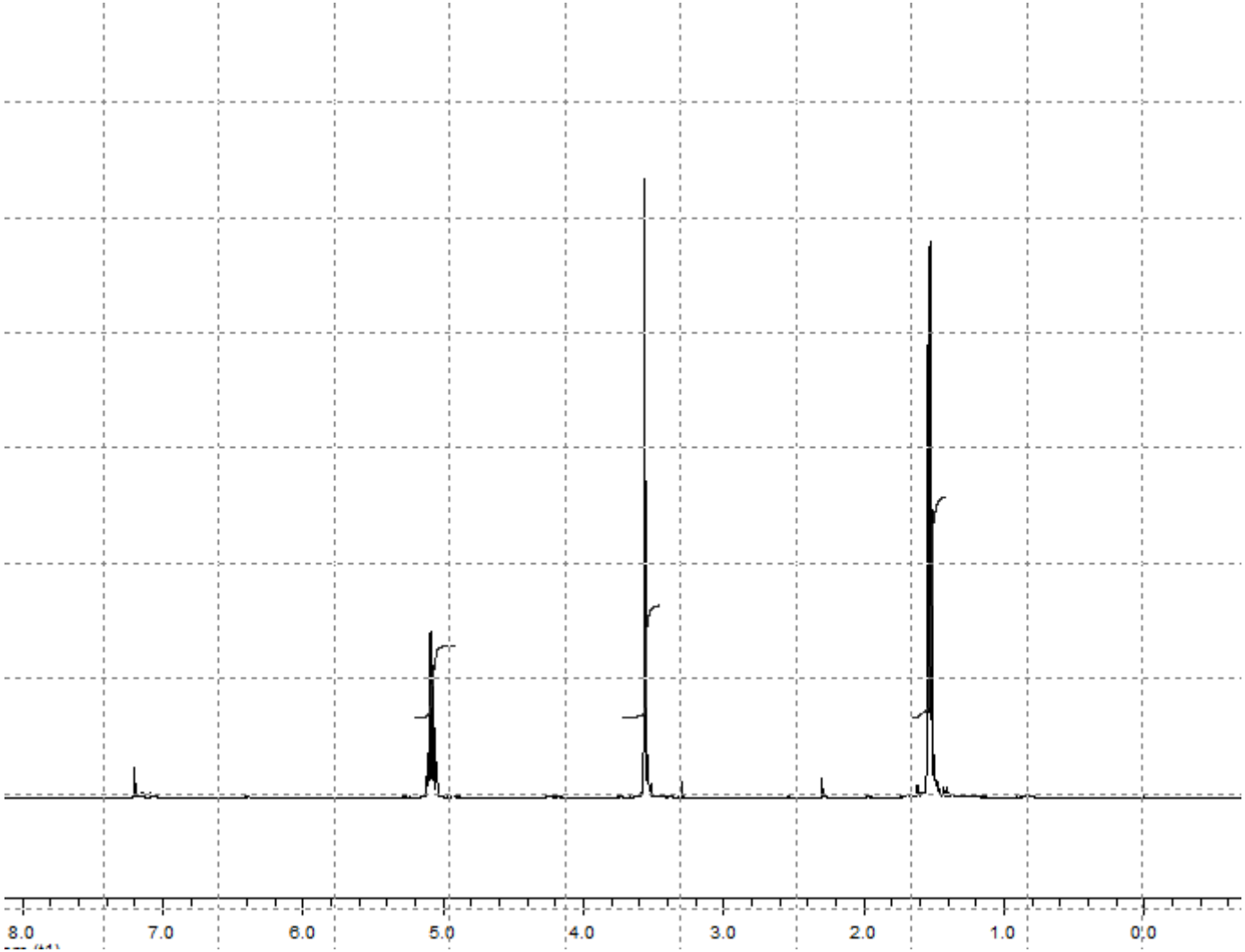


First measurement of three independent data for TPT in gel at 10.0% loading (representative example)
t= 120 min



Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

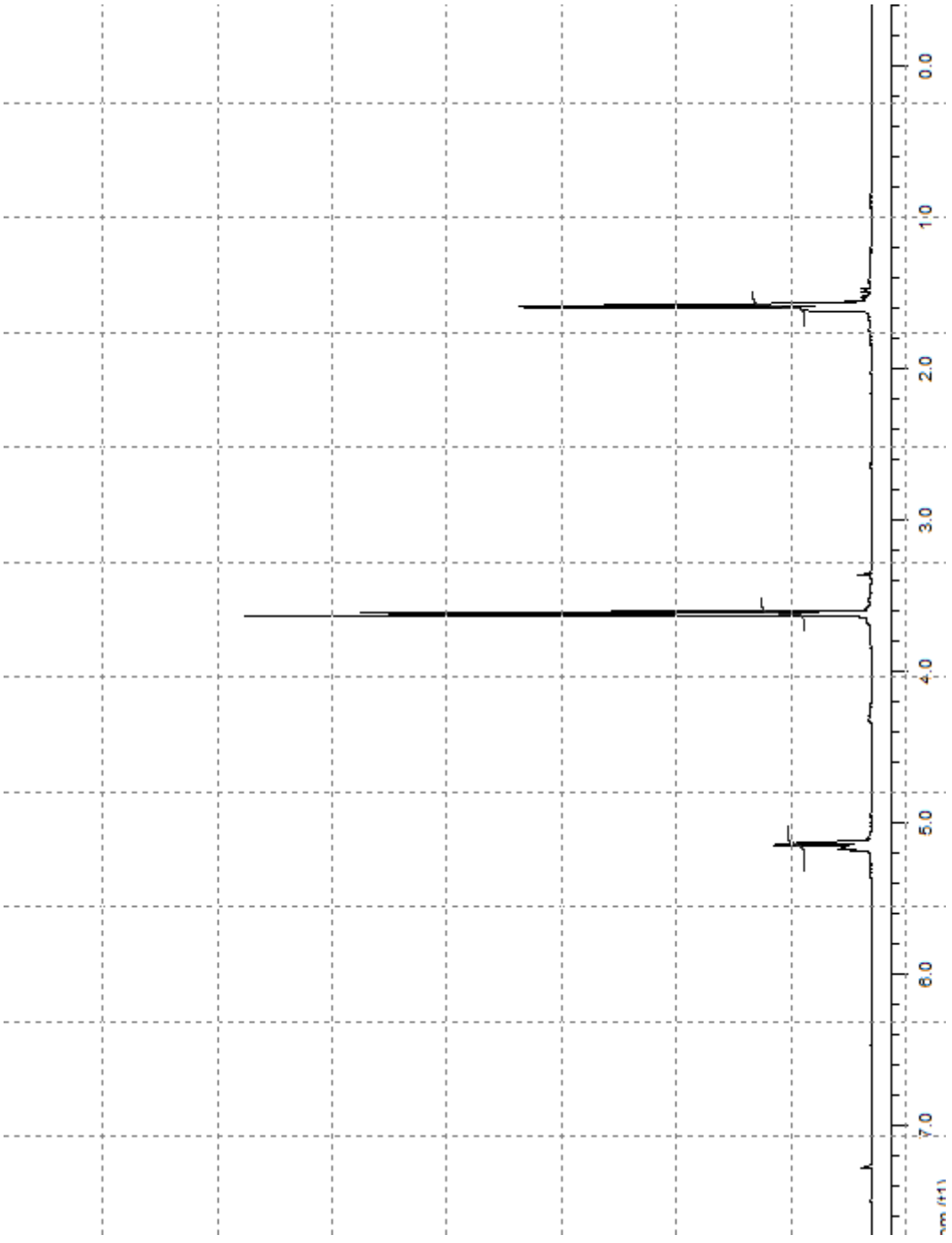
Copy of the ^{1}H NMR spectra
Copolymer 1



Electronic Supplementary Material (ESI) for RSC Advances
This journal is © The Royal Society of Chemistry 2011

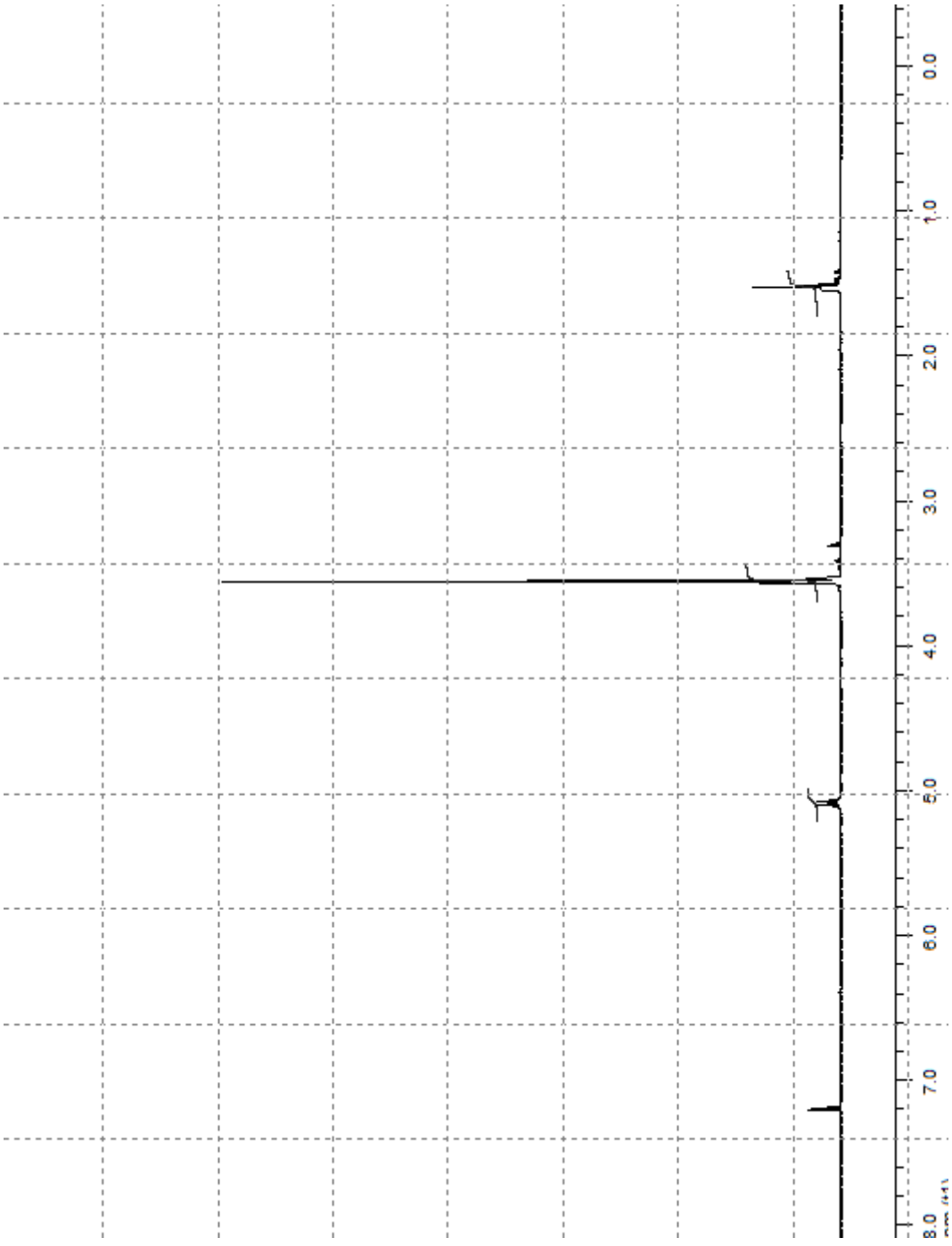
This journal is © The Royal Society of Chemistry 2011

Copolymer 2



This journal is © The Royal Society of Chemistry 2011

Copolymer 3



This journal is © The Royal Society of Chemistry 2011