

Supporting Information-II

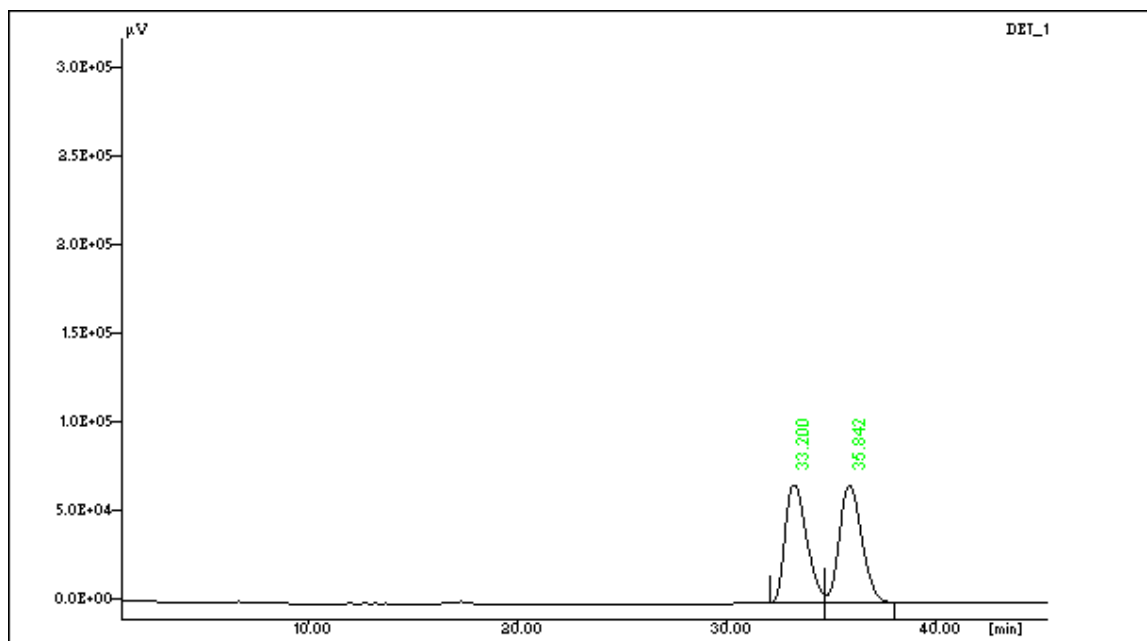
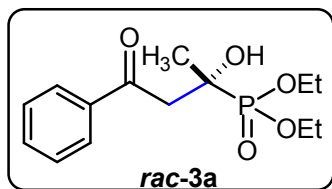
Organocatalytic Decarboxylative Aldol Reaction of β -Ketoacids with α -Ketophosphonates en route for the Enantioselective Synthesis of Tertiary α -Hydroxyphosphonates

Ganga B. Vamisetti,^{a,b} Raghunath Chowdhury,^{*a} and Sunil K. Ghosh^{a,b}

^a*Bio-Organic Division*, ^bHomi Bhabha National Institute,
Bhabha Atomic Research Centre, Trombay, Mumbai 400085

Fax: +91-22-25505151

E-mail: raghuc@barc.gov.in



File name : VGB-549-rac581.CH1

Injection Date :27-Jul-2016 3:01:06

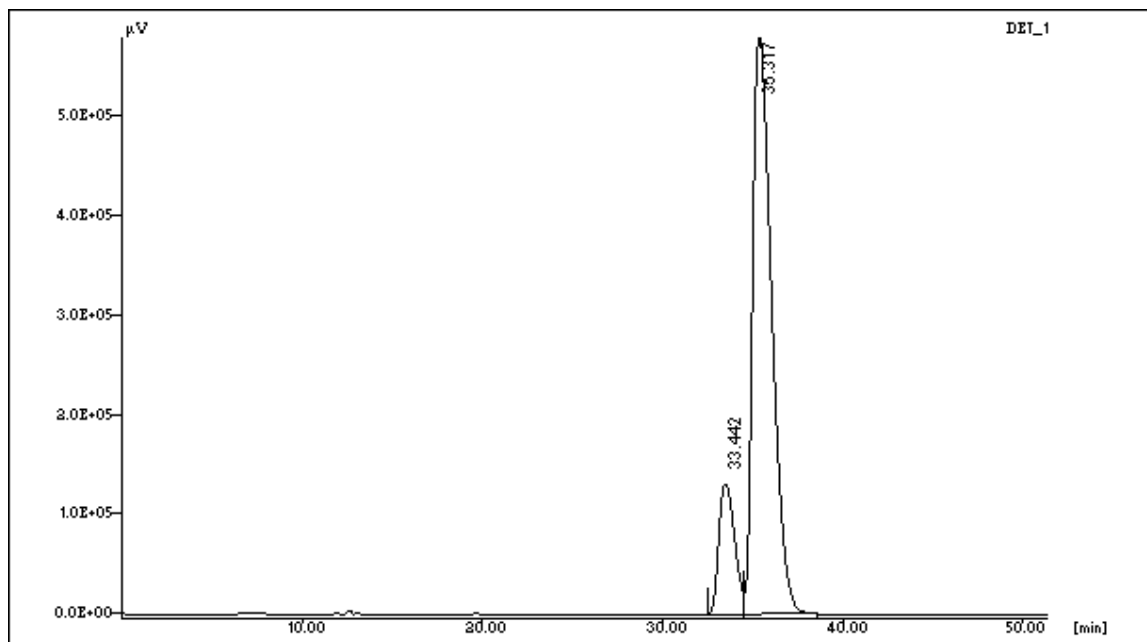
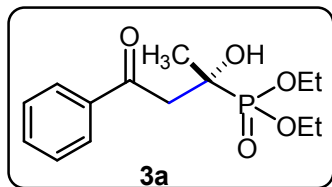
Curr. Date : 27-Jul-2016 4:18:34

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	33.20	49.402	4522662.64	66763
2	35.84	50.598	4632174.36	65709

Total Area of Peak = 9154837.00 [$\mu V \cdot Sec$]

Total Area of Signal = 2889486.50



File name : VGB635767.CH1

Injection Date :31-Oct-2016 3:25:20

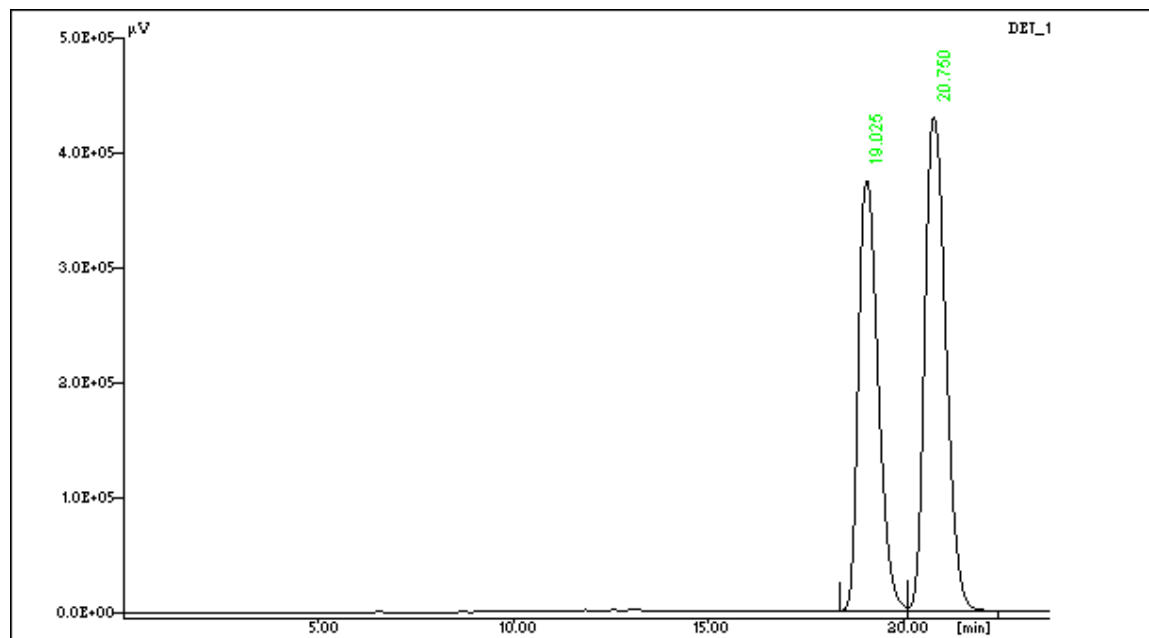
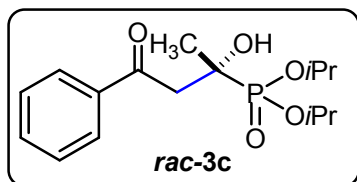
Curr. Date : 31-Oct-2016 4:40:34

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	33.44	15.841	7349149.54	130863
2	35.31	84.159	39045149.96	578153

Total Area of Peak = 46394299.50 [μV.Sec]

Total Area of Signal = 43588233.50



File name : VGB-662792.CH1

Injection Date :30-Nov-2016 0:49:12

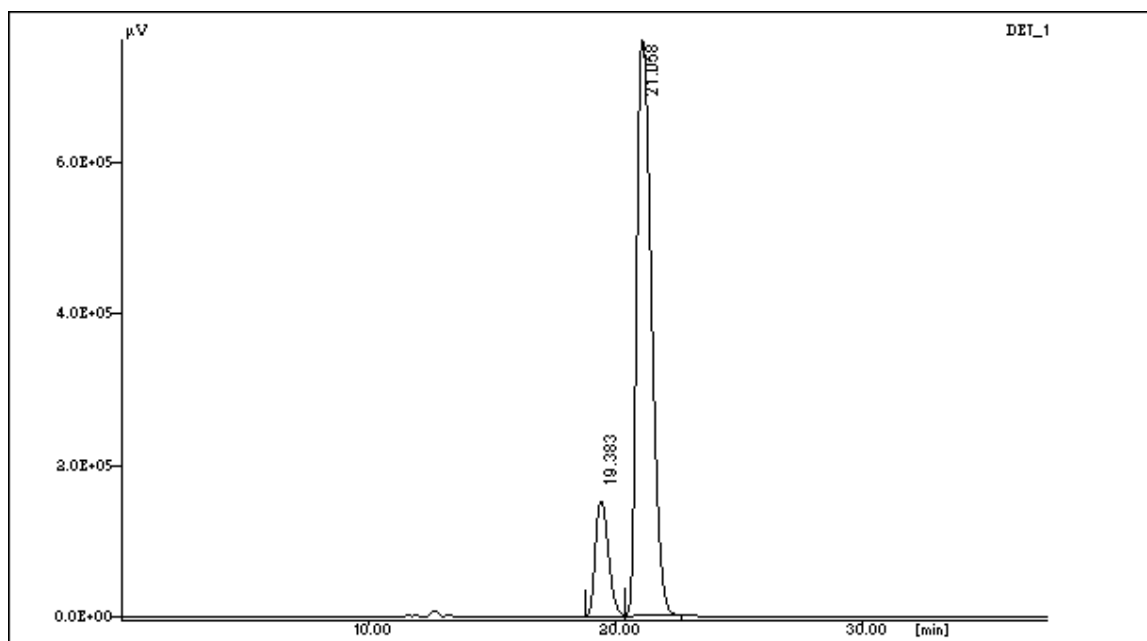
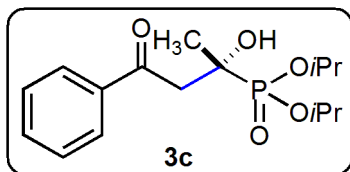
Curr. Date : 30-Nov-2016 1:14:14

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	19.02	44.815	12092087.01	373569
2	20.75	55.185	14889854.99	430000

Total Area of Peak = 26981942.00 [$\mu V \cdot Sec$]

Total Area of Signal = 28679929.00



File name : VGB-663794.CH1

Injection Date :30-Nov-2016 1:39:12

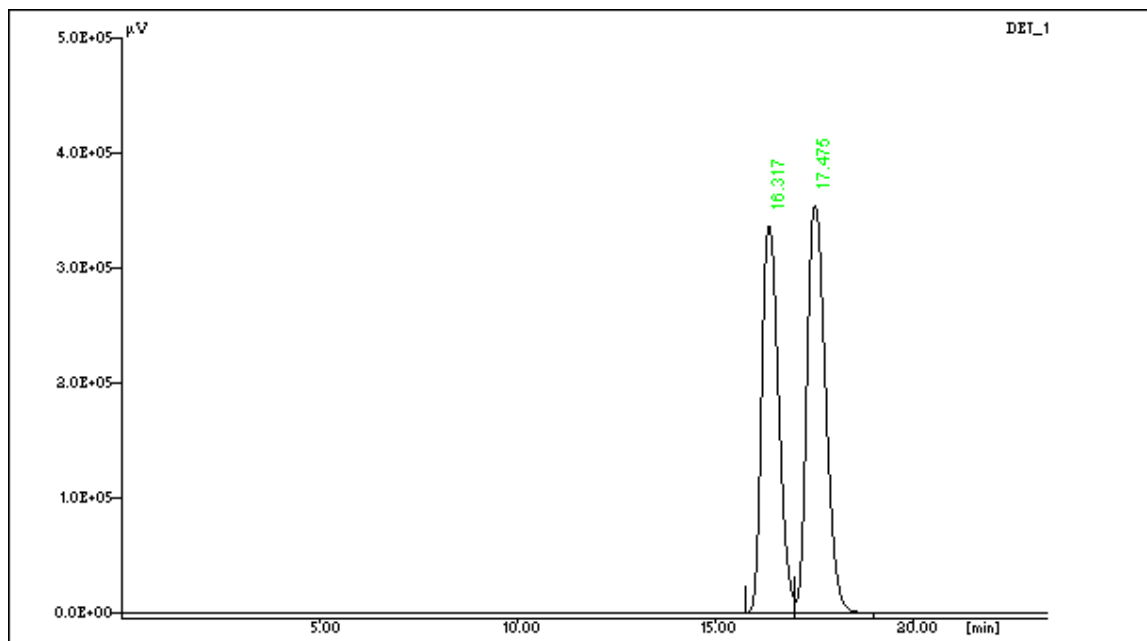
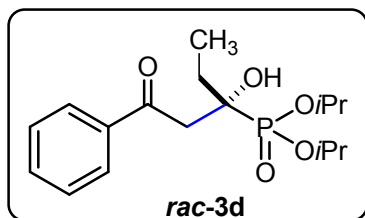
Curr. Date : 30-Nov-2016 2:18:02

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	19.38	14.927	4992635.36	152764
2	20.05	85.073	28453848.64	761207

Total Area of Peak = 33446484.00 [μV.Sec]

Total Area of Signal = 33566485.00



File name : vgb-689-OD-H867.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 3-Jan-2017 13:52:36

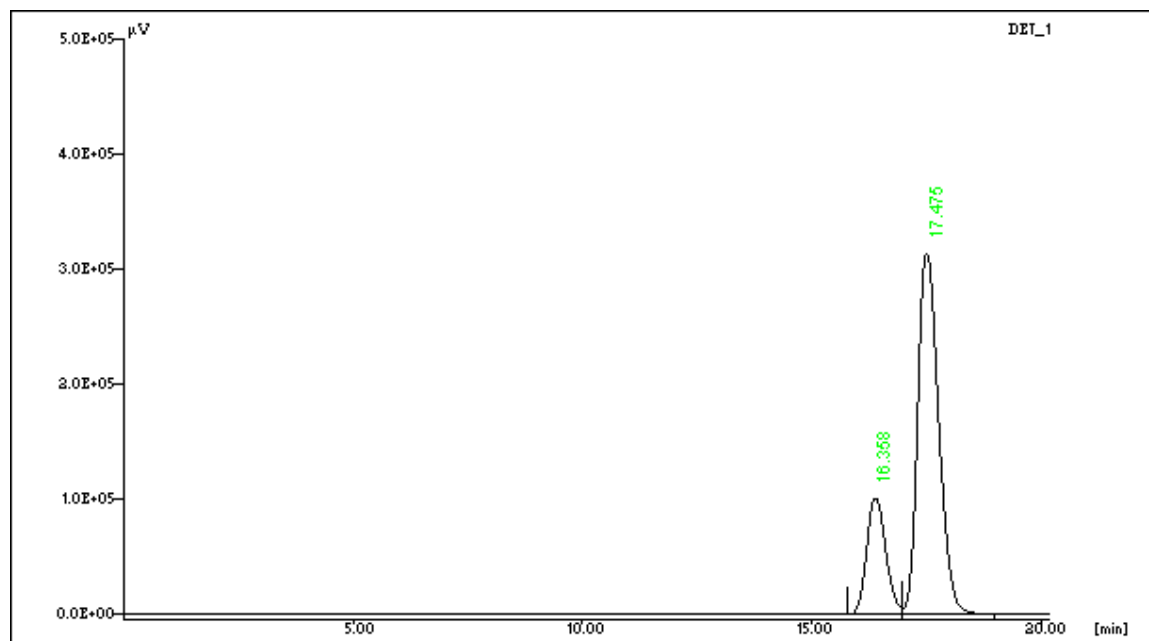
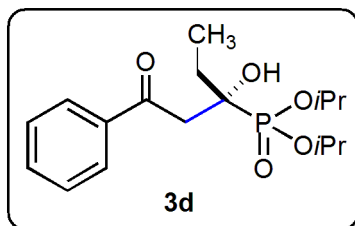
Curr. Date : 3-Jan-2017 14:18:04

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	16.31	46.224	9093788.50	335912
2	17.47	53.776	10579488.75	355129

Total Area of Peak = 19673277.25 [$\mu V \cdot Sec$]

Total Area of Signal = 19043618.50



File name : vgb-692-OD-H868.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 3-Jan-2017 14:17:14

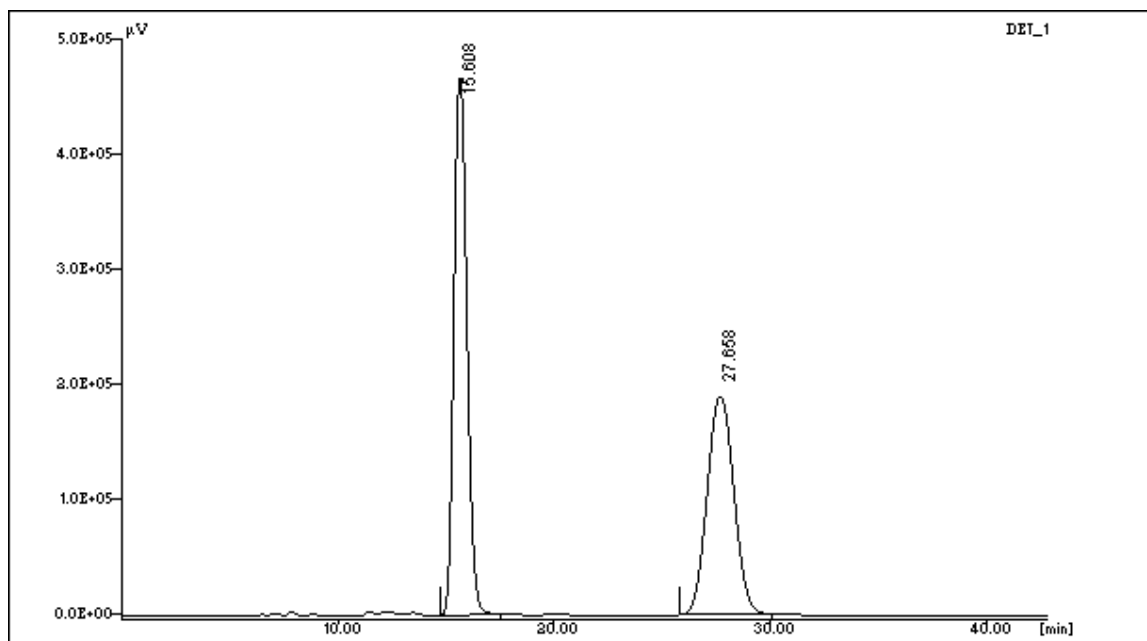
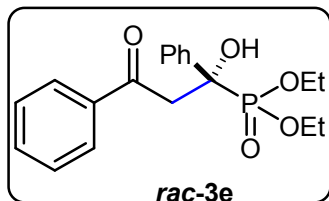
Curr. Date : 3-Jan-2017 14:38:10

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	16.35	22.717	2711642.16	100788
2	17.47	77.283	9224746.73	313220

Total Area of Peak = 11936388.89 [μV.Sec]

Total Area of Signal = 11368141.00



File name : vgb-685-OJH-10856.CH1

Info :OJH-10%IPA/HEXANE, FLOW RATE 0.5 ML/MIN

Injection Date :29-Dec-2016 6:15:08

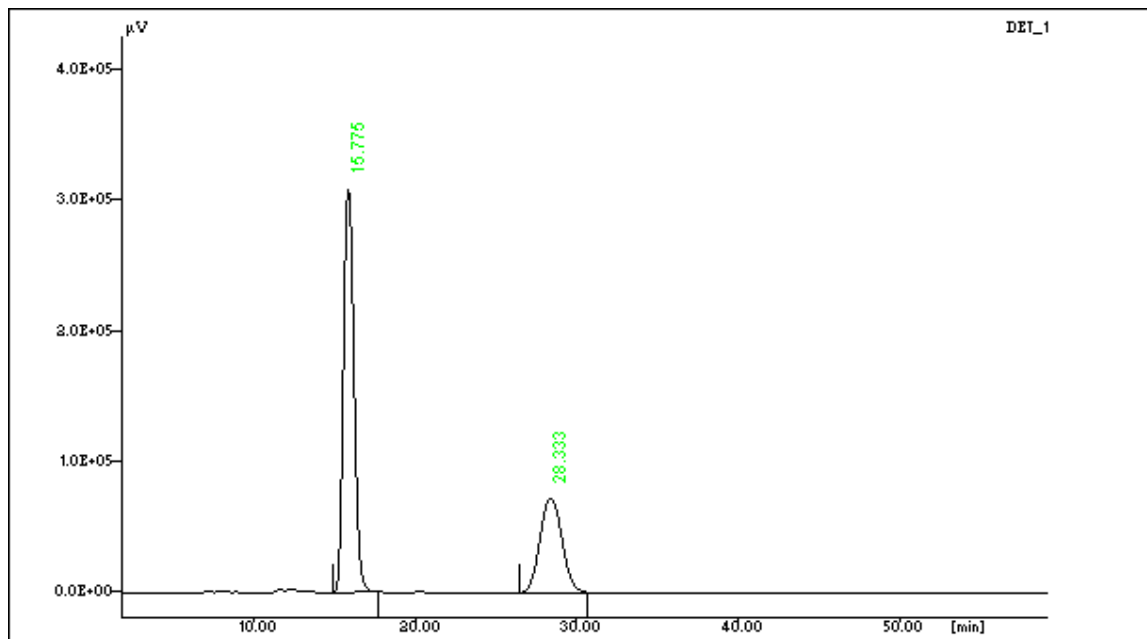
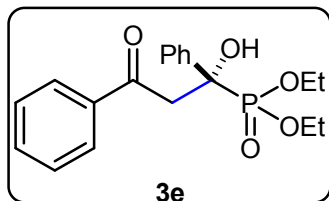
Curr. Date : 29-Dec-2016 6:59:40

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	15.60	52.815	17180251.50	466867
2	27.65	47.185	15348668.00	189576

Total Area of Peak = 32528919.50 [μV.Sec]

Total Area of Signal = 30296575.50



File name : vgb-690-OJH-10855.CH1

Info : 0JH-10%IPA/HEXANE, FLOW RATE 0.5 ML/MIN

Injection Date :29-Dec-2016 4:41:50

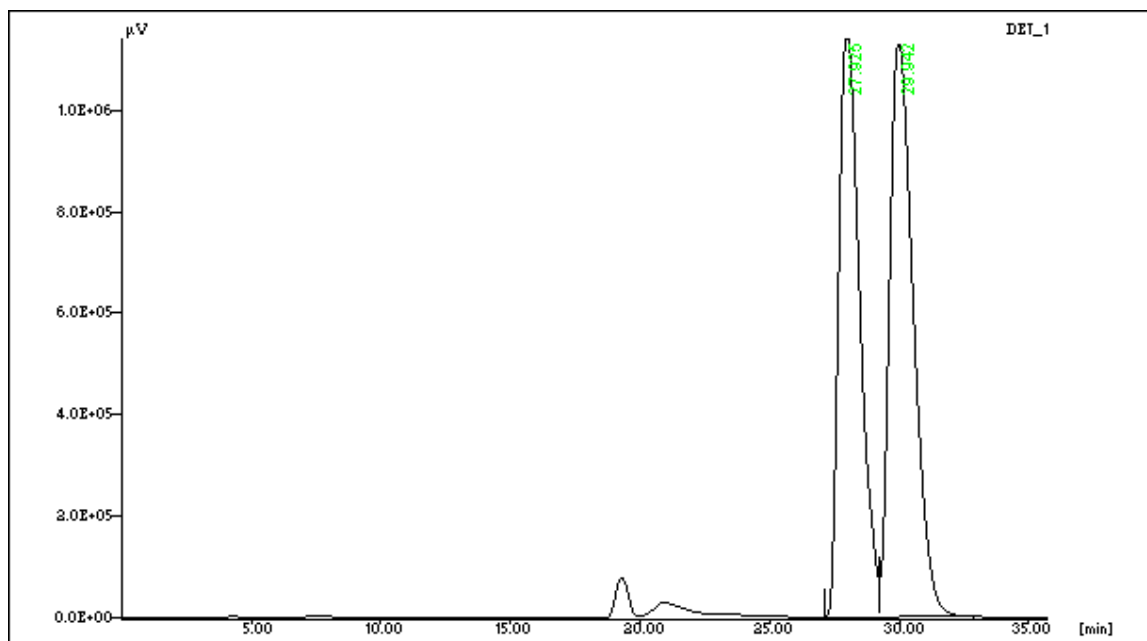
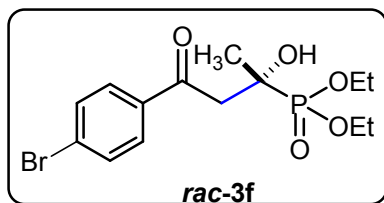
Curr. Date : 29-Dec-2016 7:01:32

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	15.77	65.251	11860823.50	307633
2	28.33	34.749	6316326.00	71488

Total Area of Peak = 18177149.50 [μV.Sec]

Total Area of Signal = 13861709.00



File name : VGB-647788.CH1

Injection Date : 22-Nov-2016 4:47:59

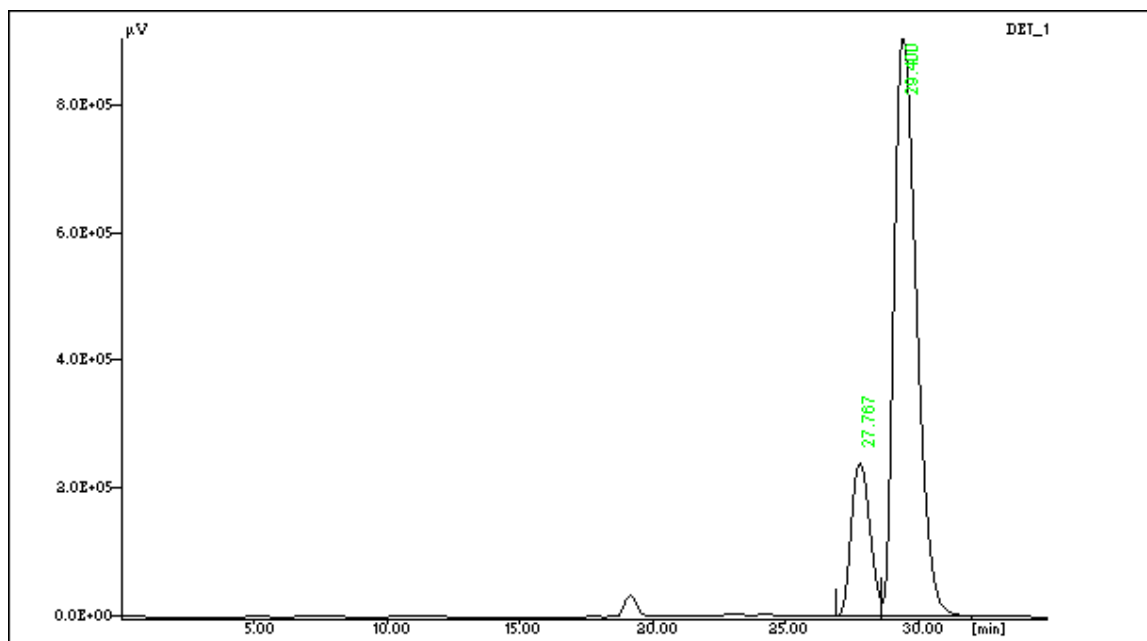
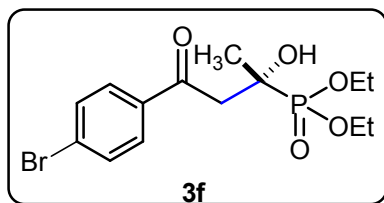
Curr. Date : 22-Nov-2016 1:43:56

Control Method :RC-1

Name	RT	%Area	Area[μ V.Sec]	Height[μ V]
1	27.92	47.273	60469923.71	1140124
2	29.94	52.727	67446111.54	1129020

Total Area of Peak = 127916035.25 [μ V.Sec]

Total Area of Signal = 133290666.00



Info :OJ COLUMN, 0.5 ML/MIN, 3% IPA-HEXANE

Injection Date :22-Nov-2016 1:03:38

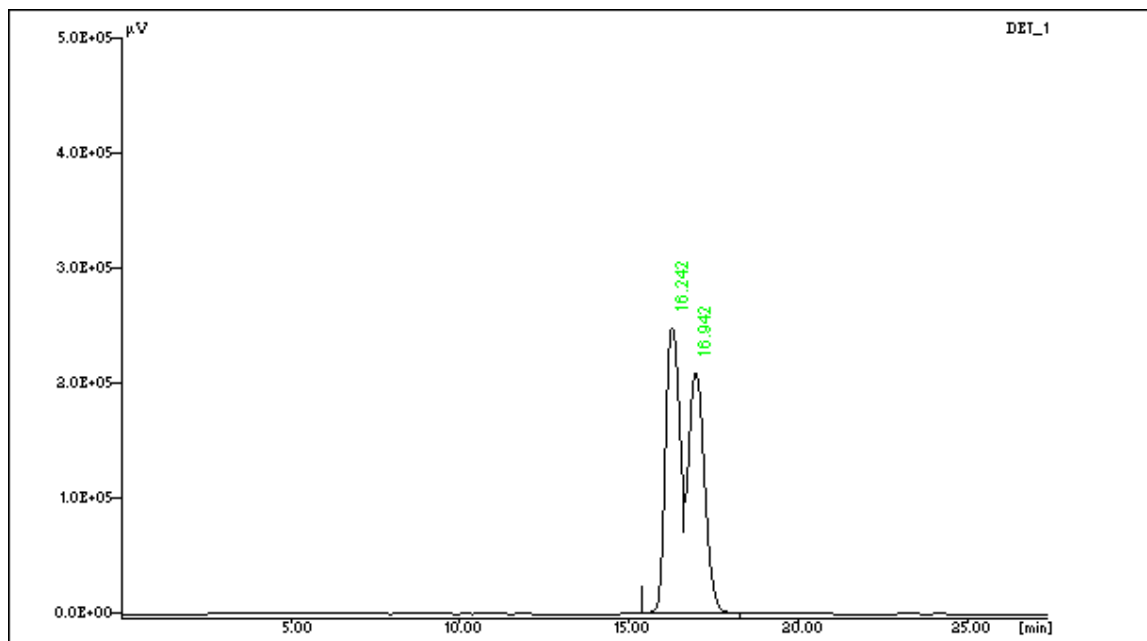
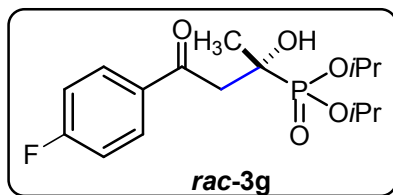
Curr. Date : 22-Nov-2016 1:40:48

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	27.76	18.113	10913554.56	238125
2	29.40	81.887	49340410.94	901472

Total Area of Peak = 60253965.50 [μV.Sec]

Total Area of Signal = 61200795.00



File name : vgb-677-ODH839.CH1

Injection Date :23-Dec-2016 15:54:36

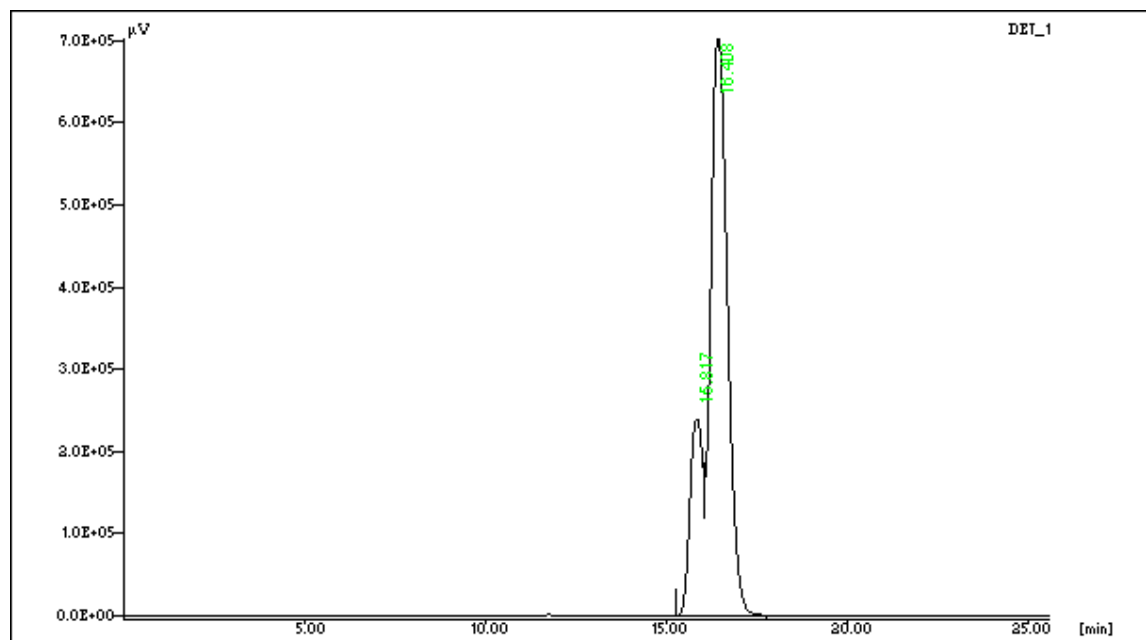
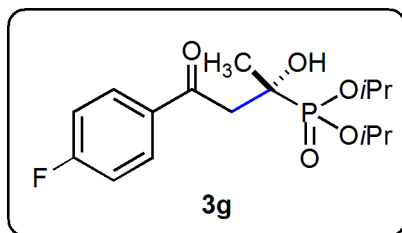
Curr. Date : 3-Jan-2017 18:54:26

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	16.24	51.965	6916206.33	248641
2	16.94	48.035	6393164.81	209099

Total Area of Peak = 13309371.14 [$\mu V \cdot Sec$]

Total Area of Signal = 11925112.50



File name : vgb-682-ODH843.CH1

Injection Date :24-Dec-2016 11:52:26

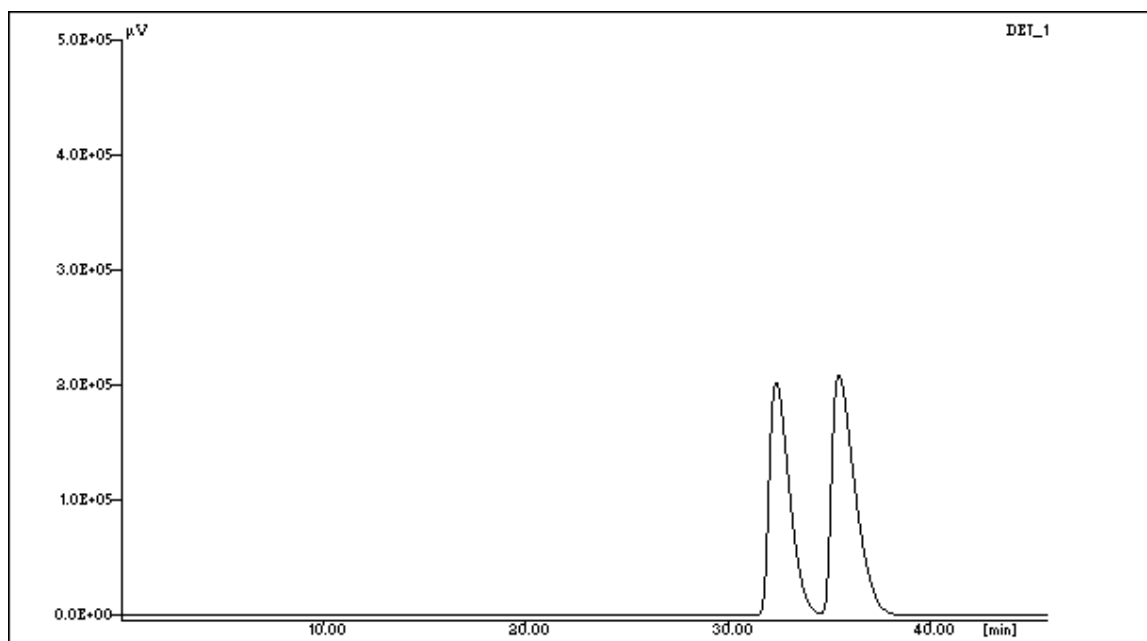
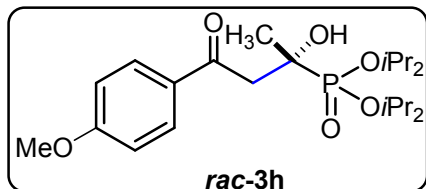
Curr. Date : 3-Jan-2017 18:57:12

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	15.81	21.262	5561144.92	238712
2	16.40	78.738	20594360.58	702174

Total Area of Peak = 26155505.50 [μV.Sec]

Total Area of Signal = 25392104.50



File name : vgb-678827.CH1

Info : Info :OD-H COLUMN, 0.5 ML/MIN, 3% ipa/hexane

Injection Date :22-Dec-2016 5:16:46

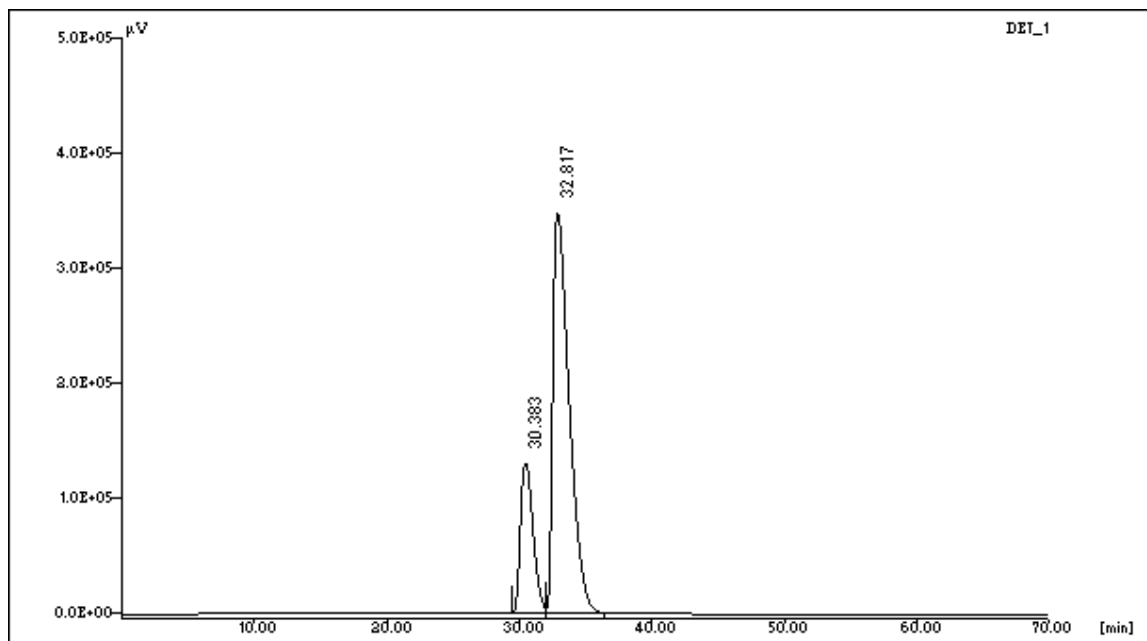
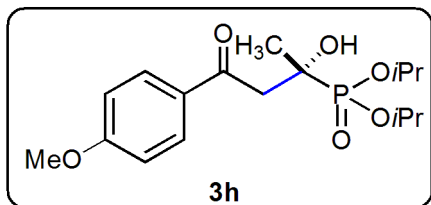
Curr. Date : 22-Dec-2016 6:05:12

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	32.35	45.468	13022683.11	201586
2	35.45	54.532	15618610.89	208222

Total Area of Peak = 28641294.00 [μV.Sec]

Total Area of Signal = 26953331



File name : vgb-686-ODH851.CH1

Injection Date :28-Dec-2016 1:00:02

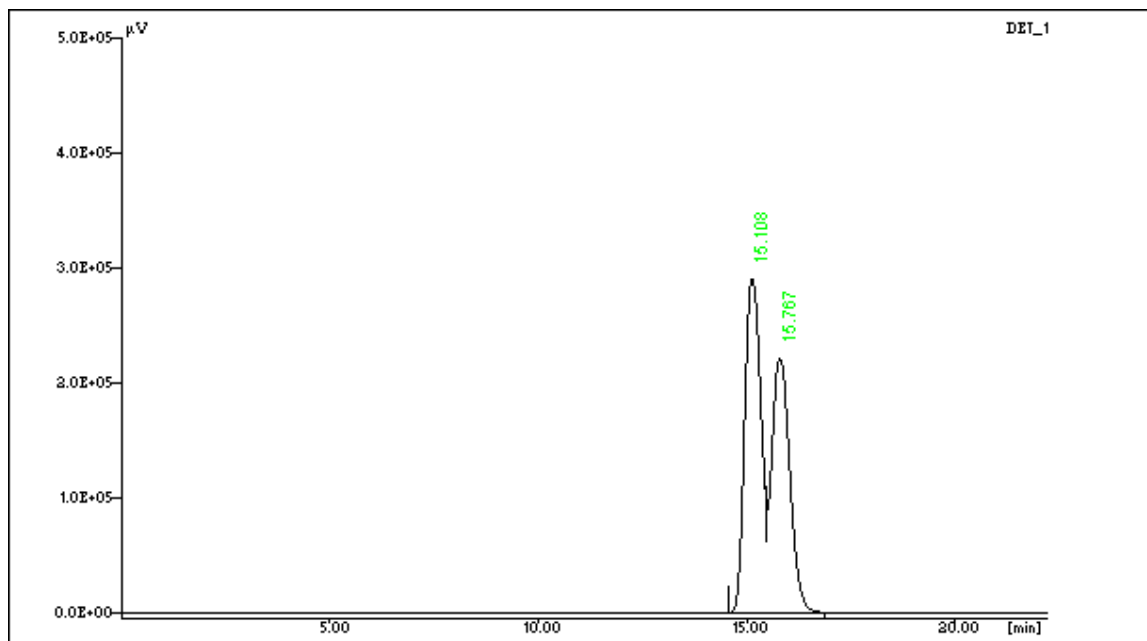
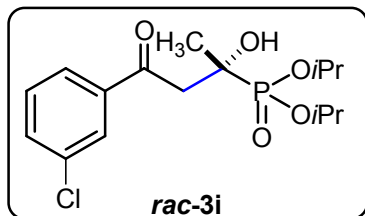
Curr. Date : 28-Dec-2016 4:13:38

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	30.38	22.203	7689656.15	130796
2	32.81	77.797	26944383.85	347508

Total Area of Peak = 34634040.00 [μV.Sec]

Total Area of Signal = 31467666.50



File name : vgb-670-ODH836.CH1

Info : OD-H COLUMN, 0.5 ML/MIN, 3% ipa/hexane

Injection Date :23-Dec-2016 14:32:56

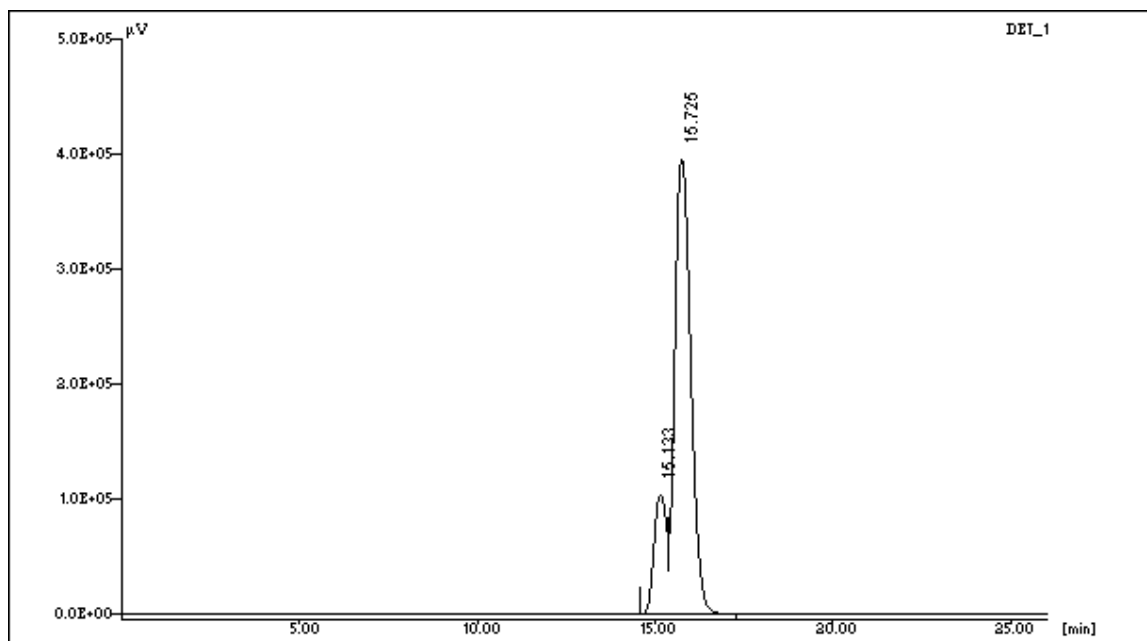
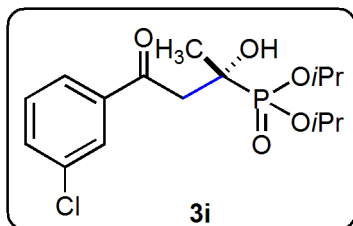
Curr. Date : 23-Dec-2016 15:44:04

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	15.10	54.221	7306046.57	290727
2	15.76	45.779	7306046.57	290727

Total Area of Peak = 13474471.89 [μV.Sec]

Total Area of Signal = 13089569.00



File name : vgb-674-ODH838.CH1

Info : OD-H COLUMN, 0.5 ML/MIN, 3% ipa/hexane

Injection Date :23-Dec-2016 15:14:06

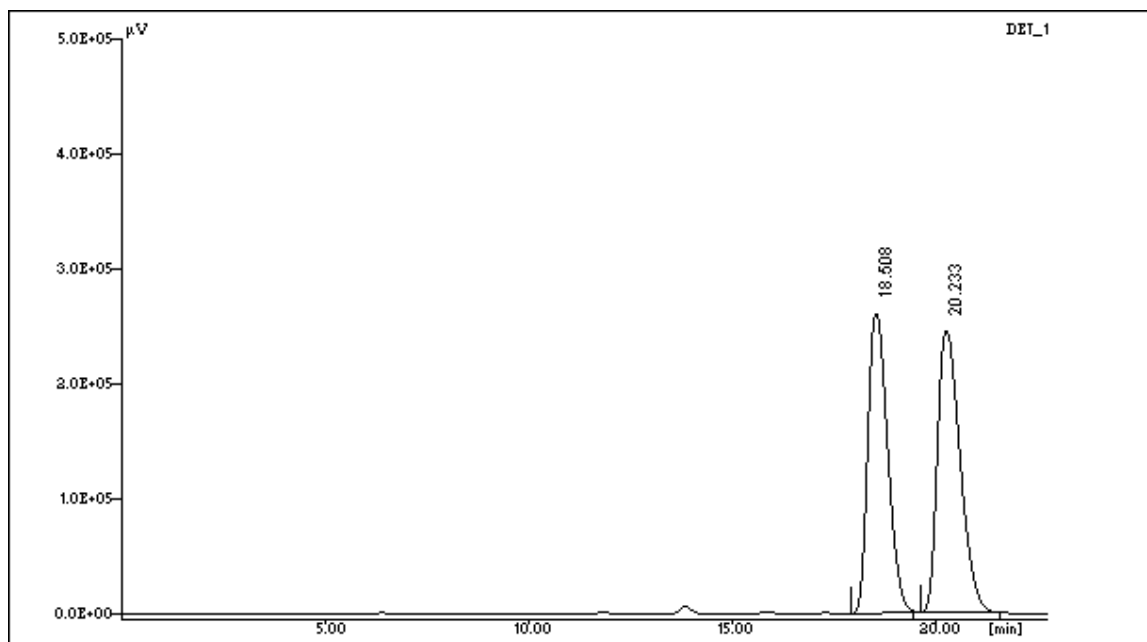
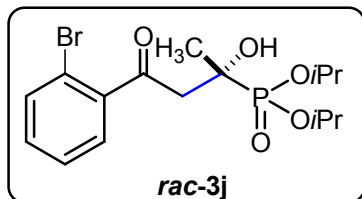
Curr. Date : 23-Dec-2016 15:42:44

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	15.13	17.257	2340430.78	103372
2	15.72	82.743	11221674.72	395311

Total Area of Peak = 13562105.50 [μV.Sec]

Total Area of Signal = 12599137.50



File name : vgb-675823.CH1

Injection Date :22-Dec-2016 3:14:34

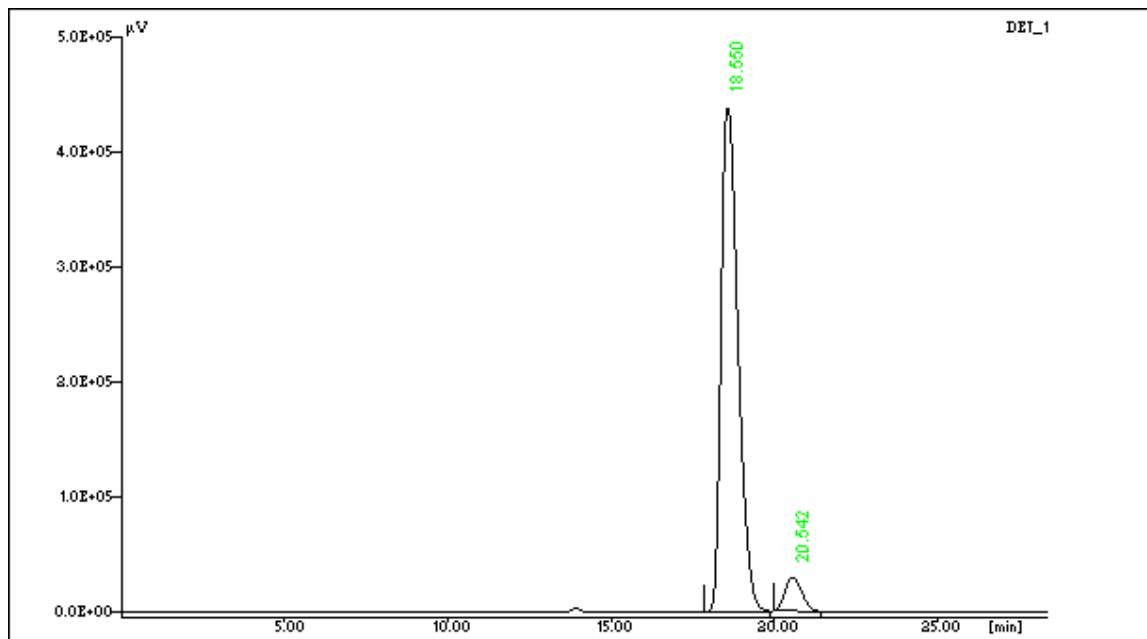
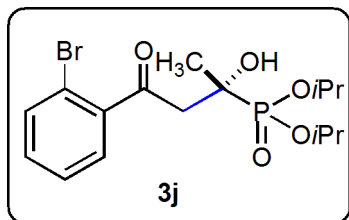
Curr. Date : 22-Dec-2016 4:13:20

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	18.50	47.792	8104021.25	259877
2	20.23	52.208	8852842.25	244238

Total Area of Peak = 16956863.50 [μV.Sec]

Total Area of Signal = 17410520.00



File name : vgb-676825.CH1

Injection Date :22-Dec-2016 4:17:04

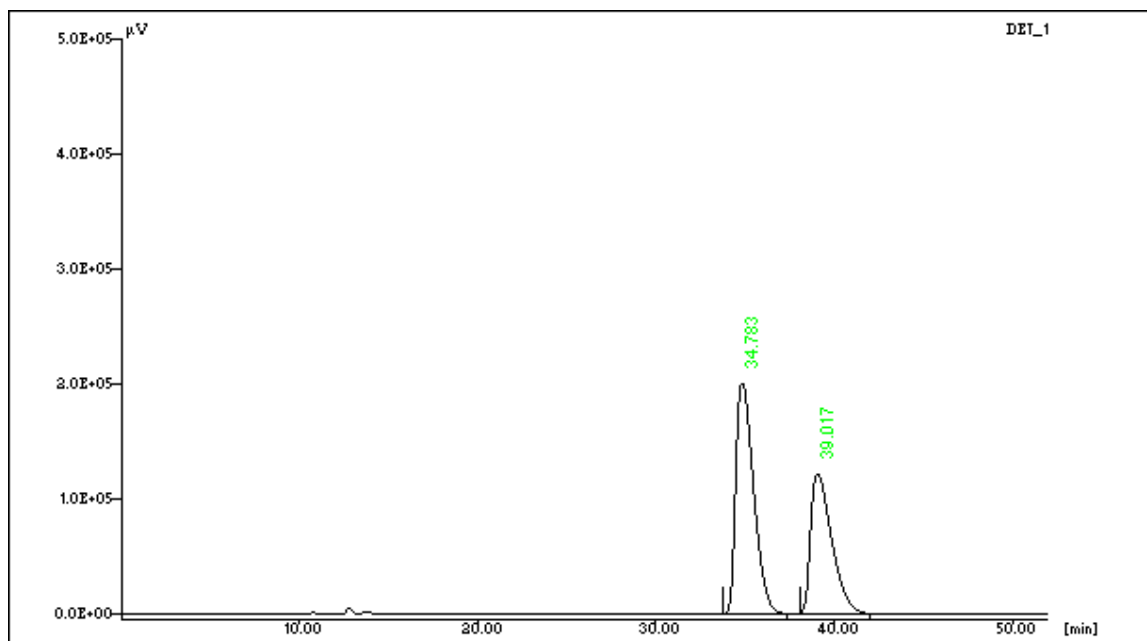
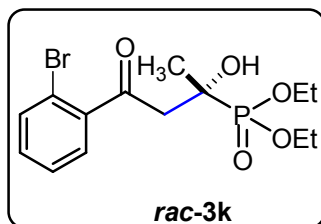
Curr. Date : 22-Dec-2016 4:47:02

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	18.55	93.651	14391209.9	438483
2	20.54	6.349	975686.50	28804

Total Area of Peak = 15366896.44 [μV.Sec]

Total Area of Signal = 15001759.50



File name : vgb-696-OD-H866.CH1

Info :OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 3-Jan-2017 12:50:04

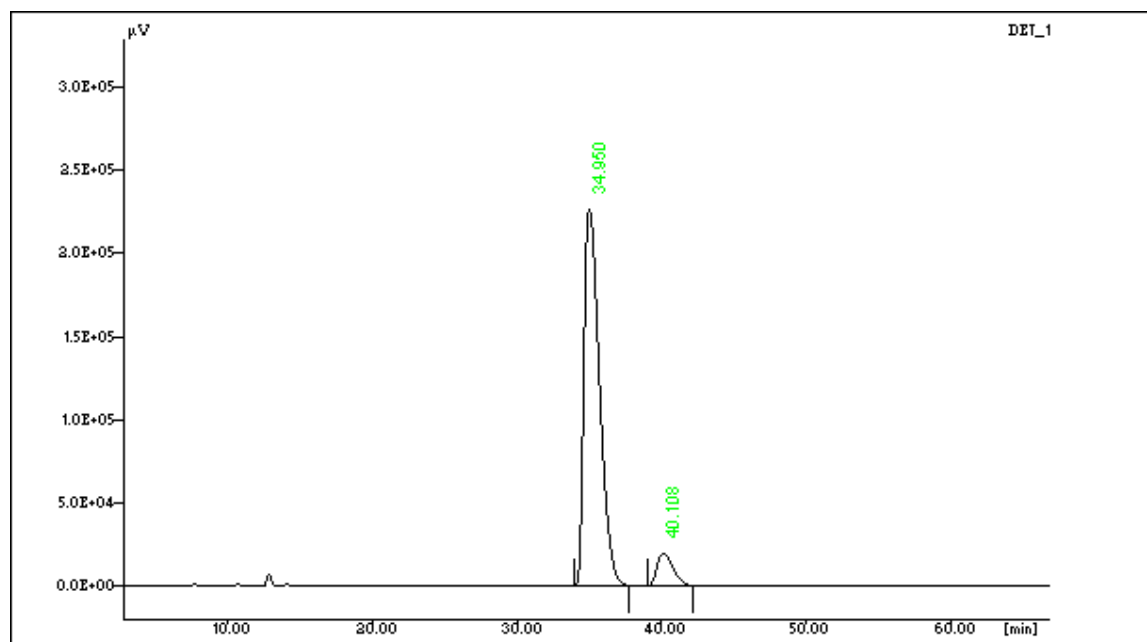
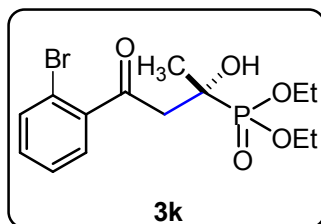
Curr. Date : 3-Jan-2017 13:43:20

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	34.78	57.728	12736397.00	200748
2	39.01	42.272	9326308.25	121582

Total Area of Peak = 22062705.25 [$\mu V \cdot Sec$]

Total Area of Signal = 21770700.00



File name : vgb-698-OD-H865.CH1

Injection Date : 3-Jan-2017 11:35:28

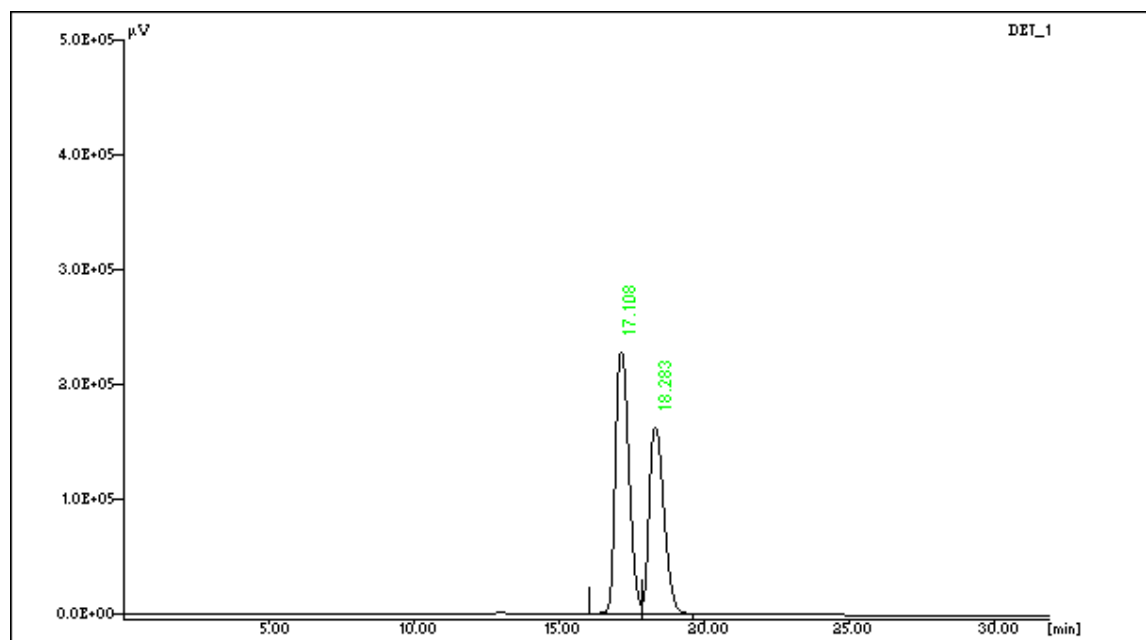
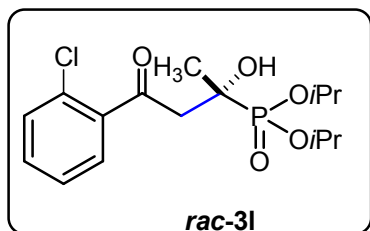
Curr. Date : 3-Jan-2017 13:44:28

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	34.95	91.693	15164247.50	225858
2	40.10	8.307	1373884.00	19179

Total Area of Peak = 16538131.50 [μV.Sec]

Total Area of Signal = 17668491.00



File name : vgb-695-OD-H869.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 3-Jan-2017 16:43:40

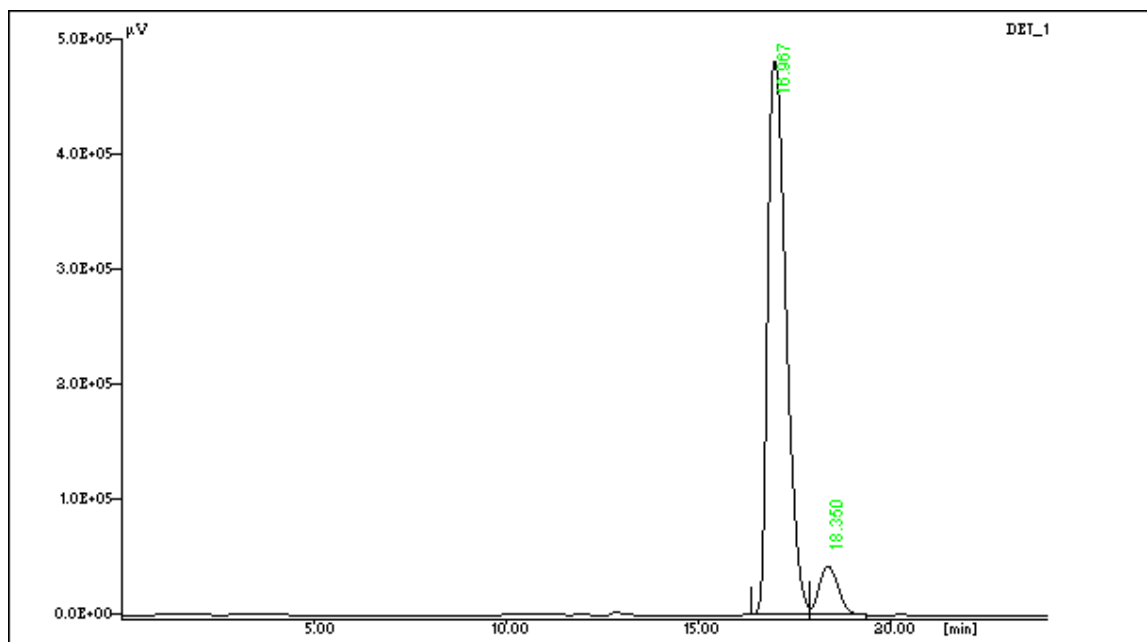
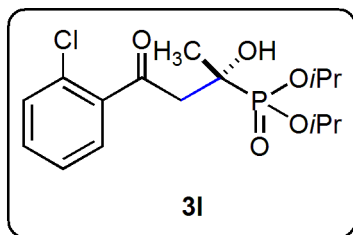
Curr. Date : 3-Jan-2017 18:16:52

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	17.10	55.957	6586322.68	228912
2	18.28	44.043	5183959.75	161902

Total Area of Peak = 11770282.43 [$\mu V \cdot Sec$]

Total Area of Signal = 10707007.50



File name : vgb-697-OD-H871.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 3-Jan-2017 17:50:08

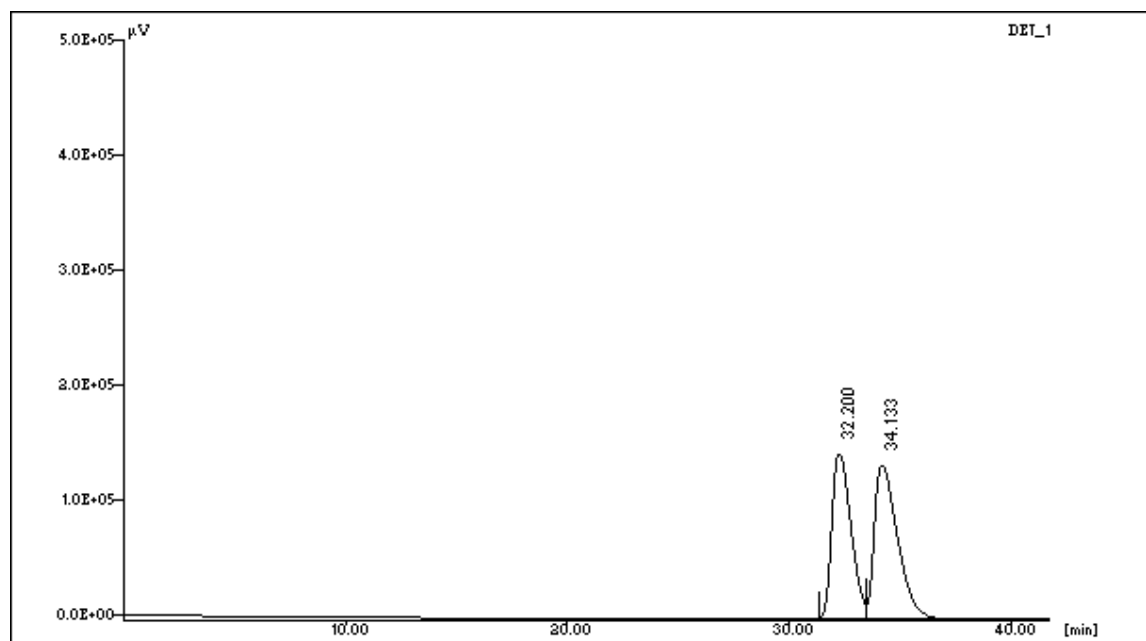
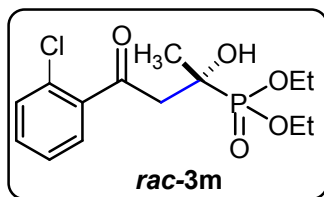
Curr. Date : 3-Jan-2017 18:16:00

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	16.96	91.587	14696416.70	480259
2	18.35	8.413	1349973.30	41789

Total Area of Peak = 16046390.00 [μV.Sec]

Total Area of Signal = 14719470.50



File name : vgb-700-OD-H875.CH1

Injection Date : 4-Jan-2017 5:52:10

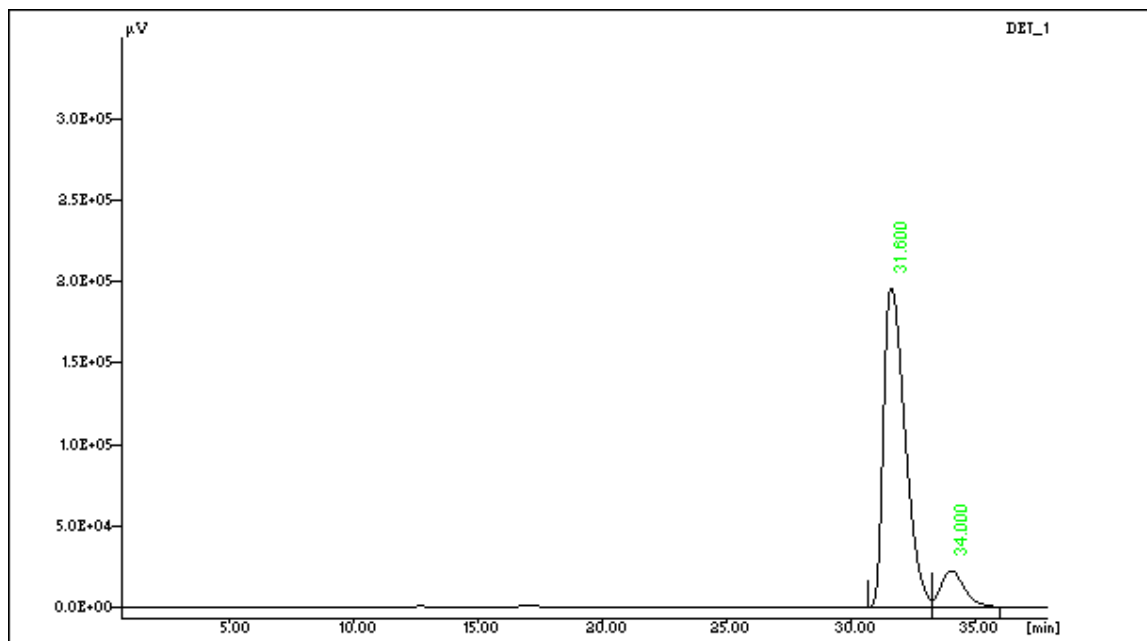
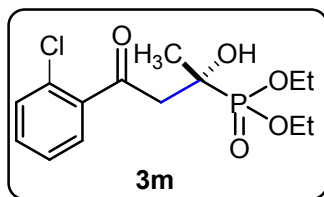
Curr. Date : 4-Jan-2017 7:34:10

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	32.20	46.671	7885205.33	142410
2	34.13	53.329	9010094.67	132900

Total Area of Peak = 16895300.00 [μV.Sec]

Total Area of Signal = 10396760.00



File name : vgb-702-OD-H876.CH1

Injection Date : 4-Jan-2017 6:56:28

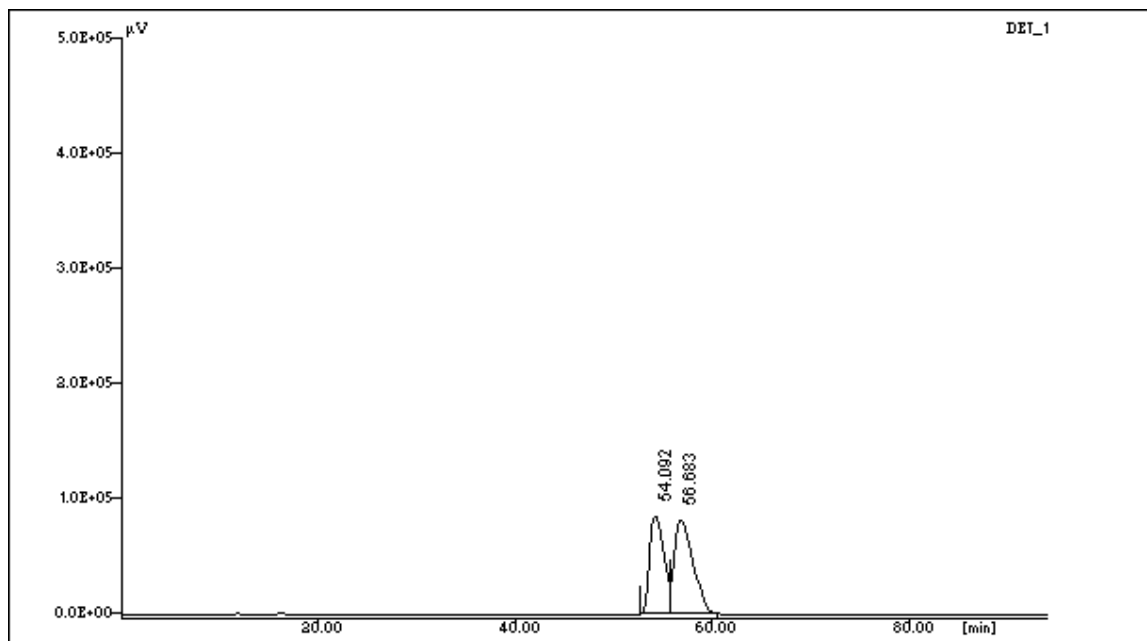
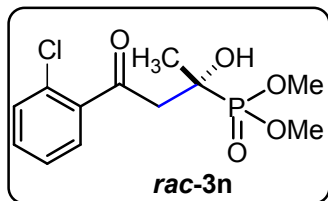
Curr. Date : 4-Jan-2017 7:36:00

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	31.60	88.877	10946763.19	194585
2	34.00	11.123	1369959.31	22180

Total Area of Peak = 12316722.50 [μV.Sec]

Total Area of Signal = 12833598.50



File name : vgb-694-OD-H872.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date : 4-Jan-2017 0:09:48

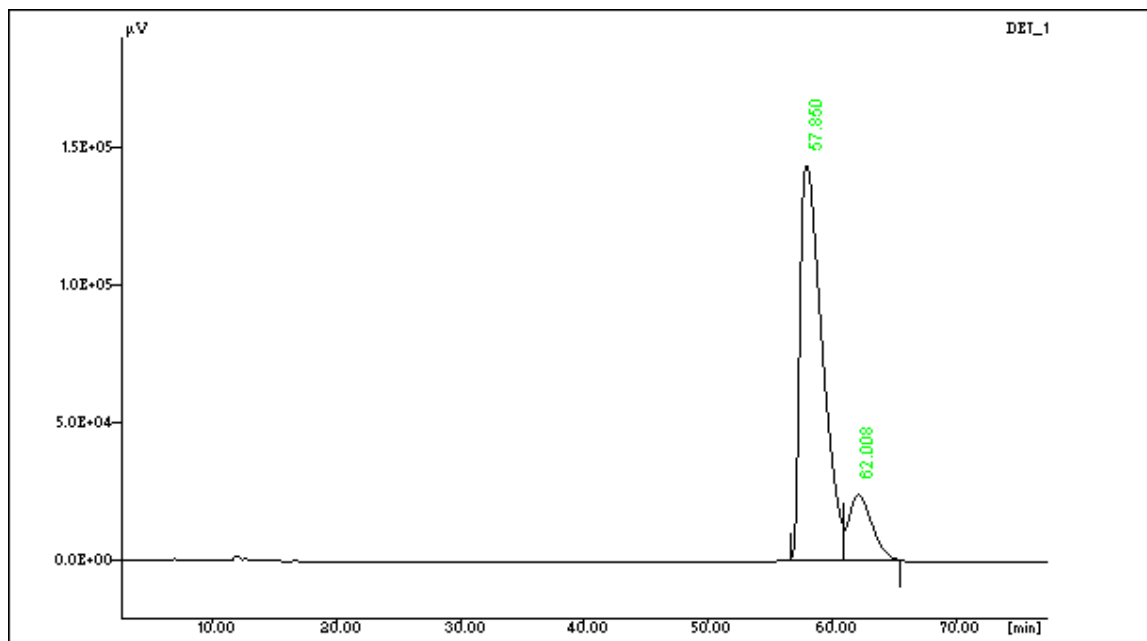
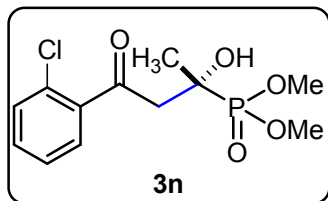
Curr. Date : 4-Jan-2017 4:30:10

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	54.09	44.201	7926227.18	84397
2	56.68	55.799	10006146.82	80537

Total Area of Peak = 17932374.00 [$\mu V \cdot Sec$]

Total Area of Signal = 9856988.50



File name : vgb-693-OD-H874.CH1

Injection Date : 4-Jan-2017 3:25:58

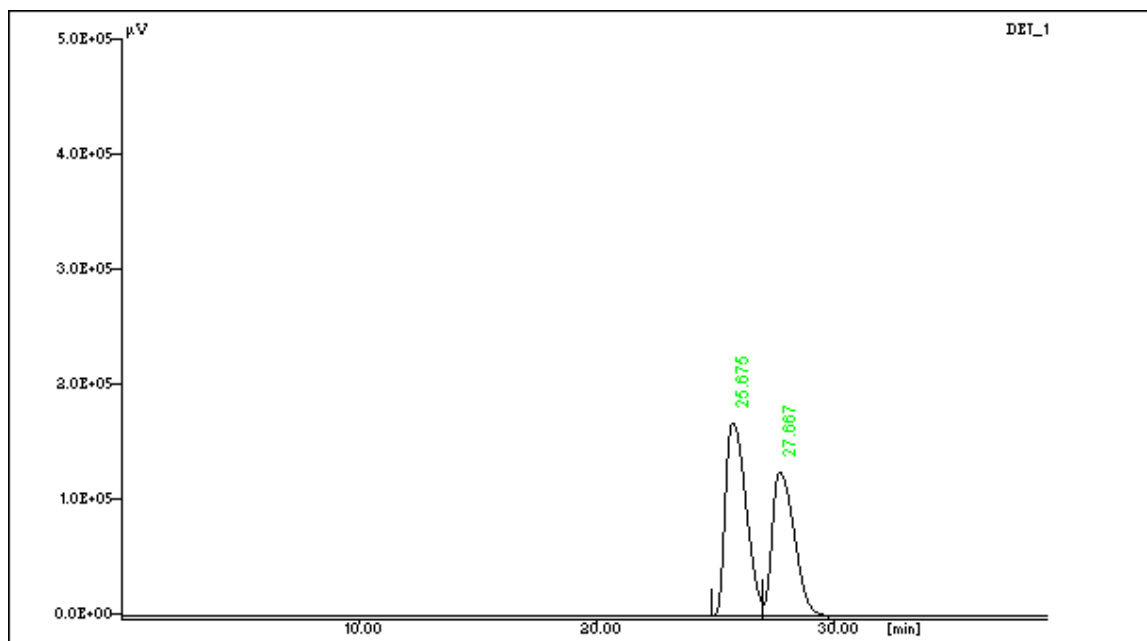
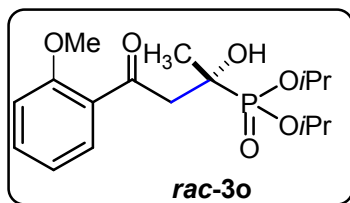
Curr. Date : 4-Jan-2017 5:05:52

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	57.85	85.308	16650821.69	142967
2	62.00	14.692	2867631.81	23579

Total Area of Peak = 19518453.50 [μV.Sec]

Total Area of Signal = 17906117.50



File name : VGB-706-AD-H916.CH1

Info : 20%IPA/HEXNE, 0.25 MI/MIN, AD-H column

Injection Date :12-Jan-2017 17:17:24

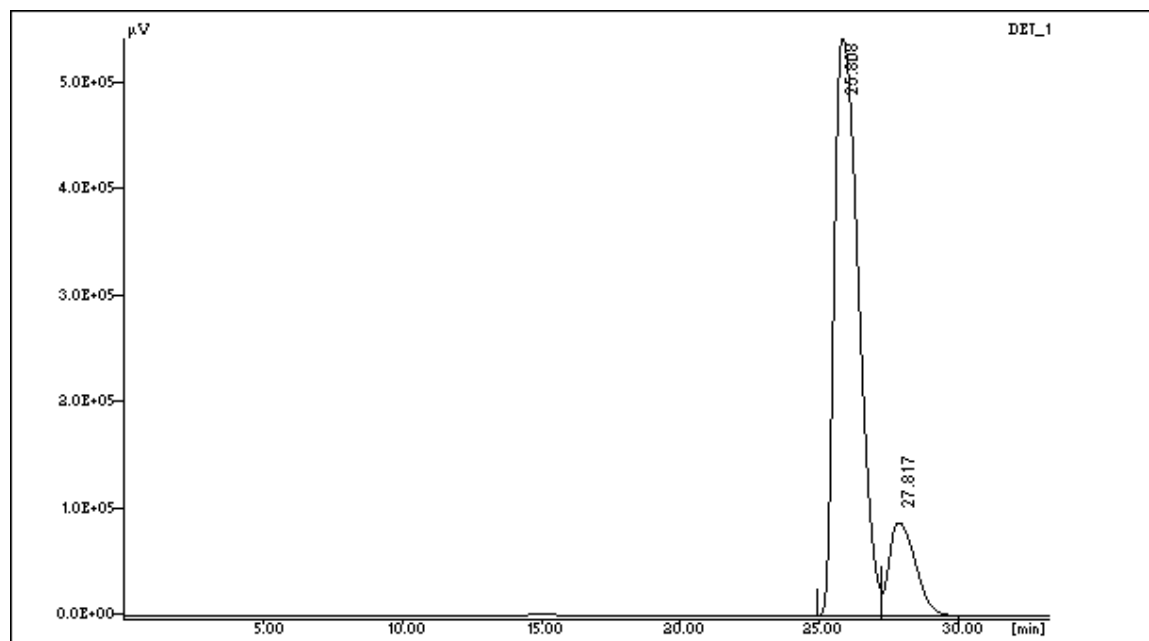
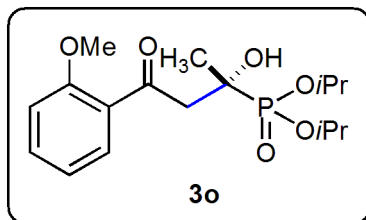
Curr. Date : 12-Jan-2017 17:56:52

Control Method :RC-NEW

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	25.67	55.659	9414100.79	167763
2	27.66	44.341	7499822.21	123945

Total Area of Peak = 16913923.00 [$\mu V \cdot Sec$]

Total Area of Signal = 12355308.50



File name : VGB-705-AD-H915.CH1

20%IPA/HEXNE, 0.25 MI/MIN, AD-H column

Injection Date :12-Jan-2017 16:42:44

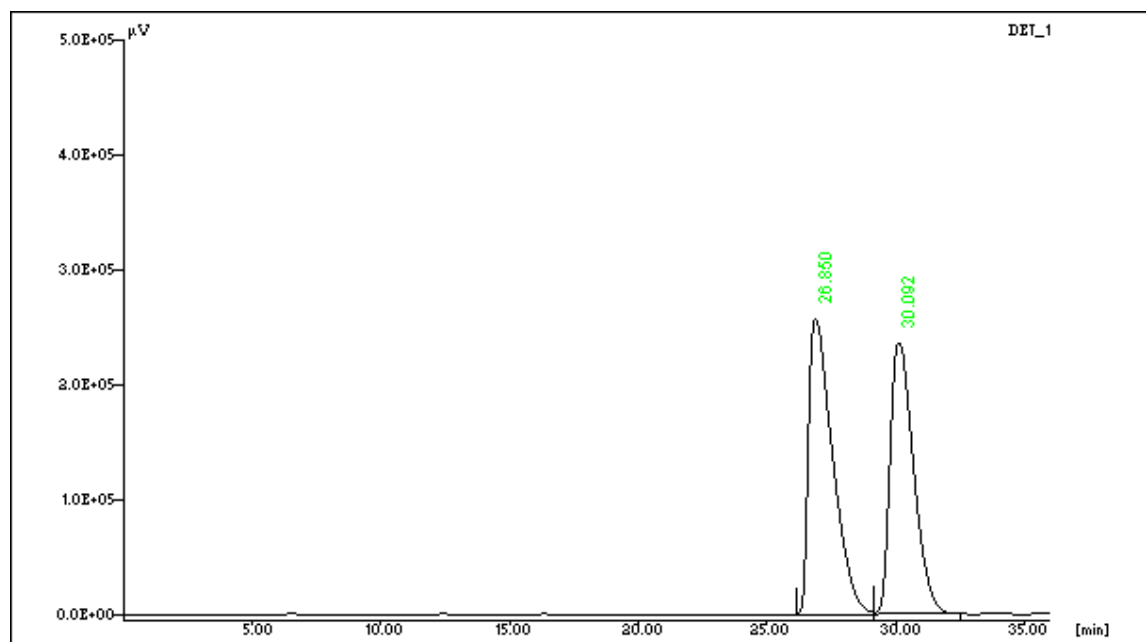
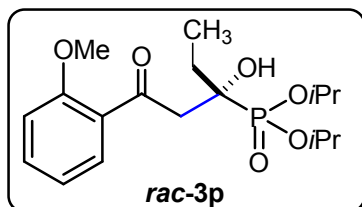
Curr. Date : 12-Jan-2017 17:18:32

Control Method :RC-NEW

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	25.80	85.023	30979822.29	541881
2	27.81	14.977	5457329.96	87549

Total Area of Peak = 36437152.25 [μV.Sec]

Total Area of Signal = 33344538.00



File name : VGB-708-OD-H900.CH1

Injection Date :11-Jan-2017 3:19:14

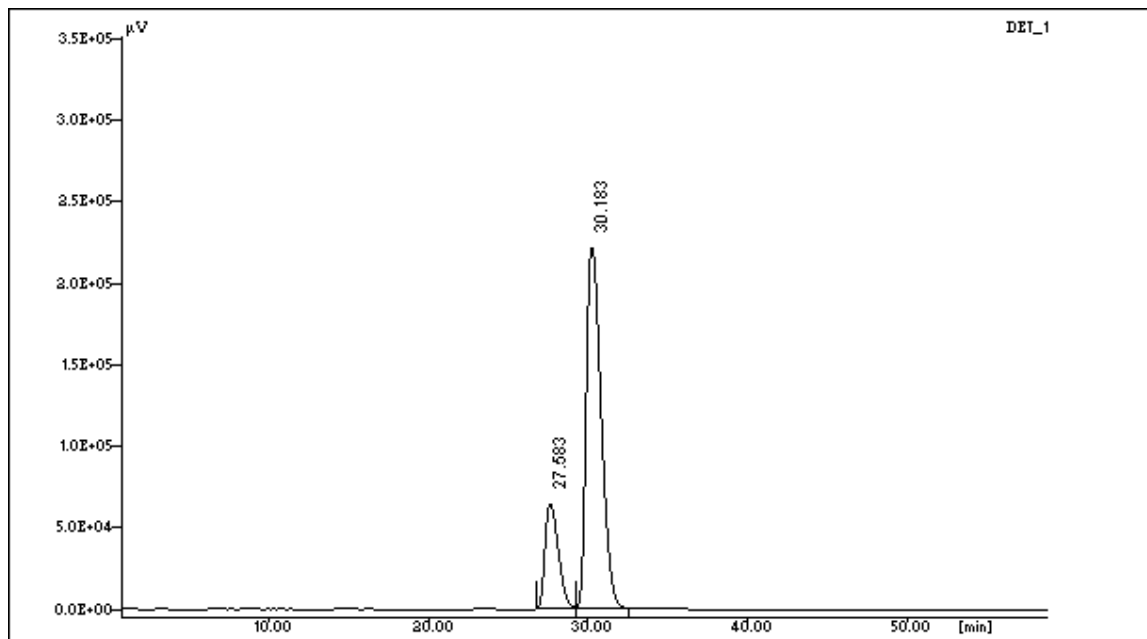
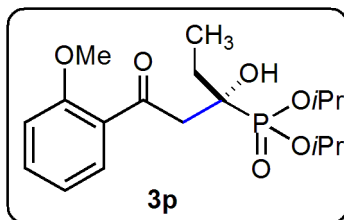
Curr. Date : 11-Jan-2017 4:59:24

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	26.85	52.898	15710826.90	256993
2	30.09	47.102	13989661.60	236000

Total Area of Peak = 29700488.50 [$\mu V \cdot Sec$]

Total Area of Signal = 30413399.50



File name : VGB-707-OD-H901.CH1

Info : OD-H, IPA/HEXANE:3/97, FLOW RATE 0.5 ML/MIN

Injection Date :11-Jan-2017 3:55:26

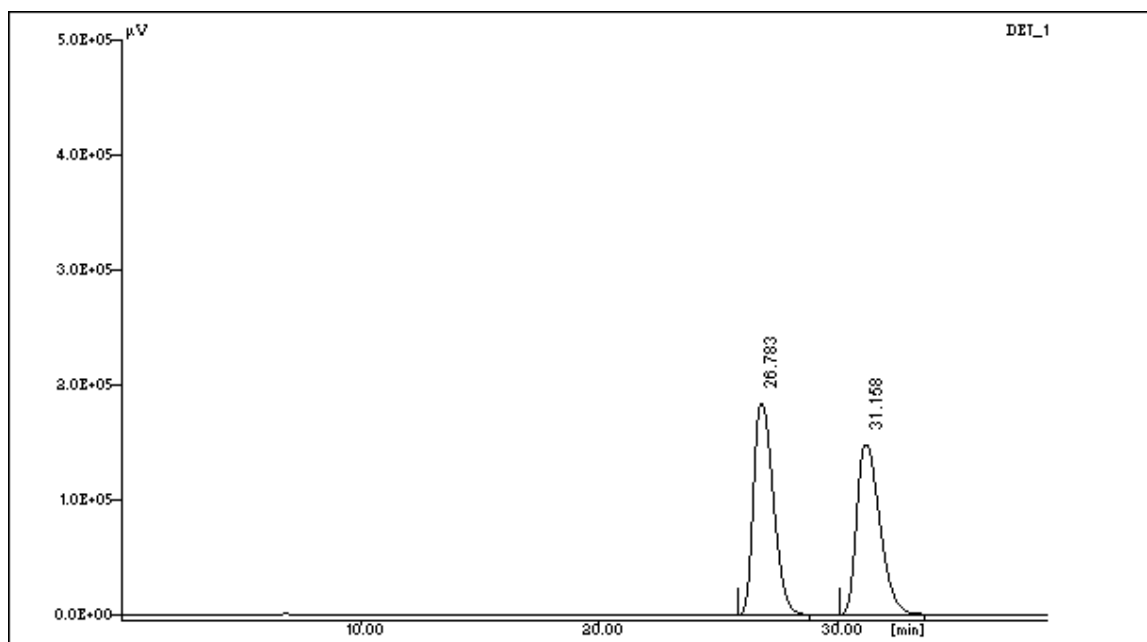
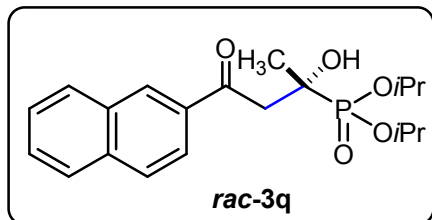
Curr. Date : 11-Jan-2017 4:58:04

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	27.58	20.513	3311667.73	63713
2	30.18	79.487	12832786.27	221440

Total Area of Peak = 16144454.00 [μV.Sec]

Total Area of Signal = 16818750.00



File name : VGB-712-OD-H971.CH1

Injection Date : 4-Feb-2017 12:34:14

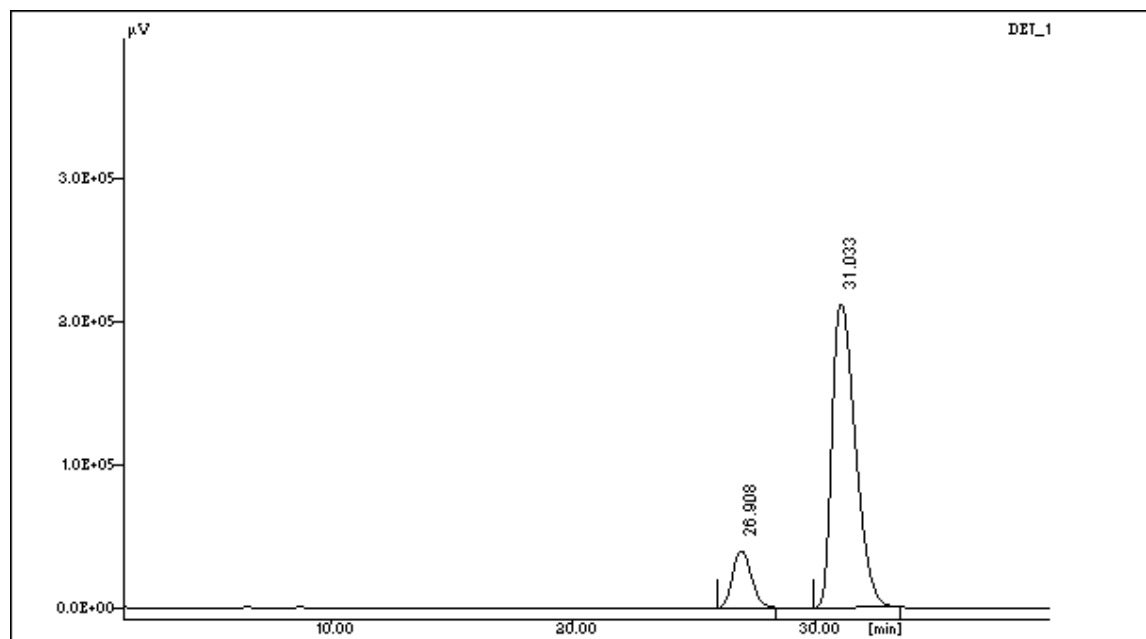
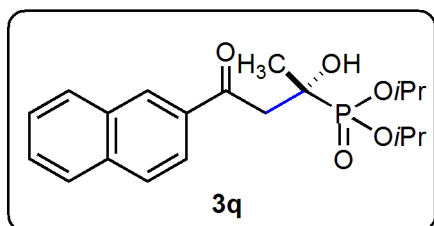
Curr. Date : 4-Feb-2017 13:13:54

Control Method :RC-1

Name	RT	%Area	Area[$\mu V \cdot Sec$]	Height[μV]
1	26.78	51.308	9781664.75	184149
2	31.15	48.692	9282849.75	147470

Total Area of Peak = 19064514.50 [$\mu V \cdot Sec$]

Total Area of Signal = 18941116.00



File name : VGB-711-OD-H970.CH1

Injection Date : 4-Feb-2017 11:48:26

Curr. Date : 4-Feb-2017 12:33:00

Control Method :RC-1

Name	RT	%Area	Area[μV.Sec]	Height[μV]
1	26.90	12.842	1951404.00	39450
2	31.03	87.158	13244566.00	211163

Total Area of Peak = 15195970.00 [μV.Sec]

Total Area of Signal = 15856270.50