

Arabinose	α -pyr		191-204-217
Arabinose	β -pyr		191-204-217
Xylose	α -pyr	1-OMe	133-204-217
Xylose	pyr	2-OMe	191-146-159
Xylose	pyr	3-OMe	133-146-217
Xylose	pyr	2,3,4-OMe	133- 88-101
Lyxose	pyr	2,3,4-OMe	133- 88-101
Arabinose	fur		

List of the eight included fully silylated pentoses (schematic nomenclature)
 The reported masses of three prominent ions reflect the substituents at C-1 and C-3, C-2 and C-3, and C-2 and C-4. This permits the number and position of O-methyl groups in pentoses (aldopyranoses) to be very easily determined as reported in:

[Svensk Papperstidning 71 \(1968\) 77-84](#)

Reference mass spectra of pentoses and methylated pentoses as trimethylsilyl derivatives

Göran Petersson

Department of Engineering Chemistry
 Chalmers University of Technology

The complete spectra were published on pages 666-681 in volume 1 of
Archives of Mass Spectral Data
 together with [spectra of hexoses](#) on pages 624-665

Editors: Einar Stenhagen, Sixten Abrahamsson and Fred W McLafferty
 Wiley, New York, 1970

Front page 2012: Göran Petersson

TRIMETHYLSILYL 2,3,4-TRI-O-TRIMETHYLSILYL-ALPHA-D-ARABINOPYRANOSIDE

GOT-0112 MW: 438.2109

C17 H42 Si4 O5

GORAN PETERSSON
 DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
 GOTHENBURG, SWEDEN

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 4793 MOST ABUNDANT PEAKS: 73 217 204 191 147 INLET TEMP:200 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
44	10	116	30	169	10	207	10	232	5	266	1	305	42	421	3
45	60	117	30	189	50	215	10	233	2	279	6	306	12	422	1
59	40	129	60	190	20	217	710	234	1	280	1	307	8	423	2
69	20	131	30	191	480	218	140	243	12	281	1	308	2	424	1
72	20	133	60	192	90	219	80	244	3	291	14	318	1		
73	1000	134	10	193	40	220	10	245	2	292	5	319	1		
74	80	143	20	203	20	221	10	259	17	293	2	333	24		
75	100	147	270	204	680	229	2	260	4	294	1	334	8		
101	50	148	40	205	130	230	6	261	1	303	2	335	4		
103	60	149	30	206	60	231	17	265	6	304	2	393	1		

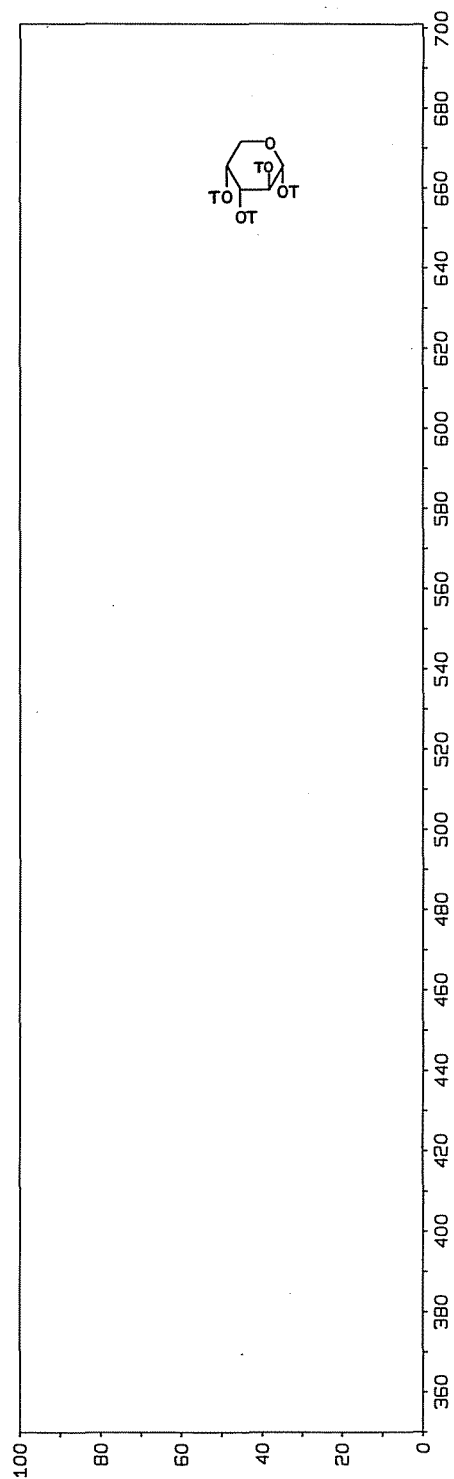
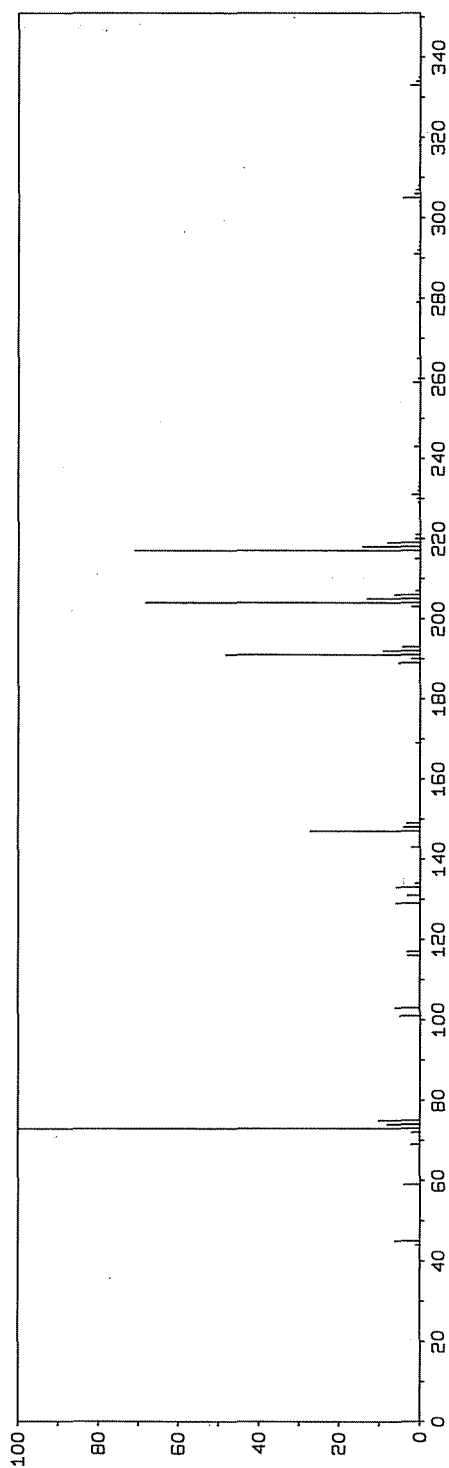
REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
 GLC INLET (MOLECULE SEPARATOR); PHASE: SE-30. CORRECTED FOR BLEEDING.
 LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

TRIMETHYLSILYL 2,3,4-TRI-O-TRIMETHYLSILYL-ALPHA-D-ARABINOPYRANOSIDE

MW 438.2109

GOT 112

C17 H42 Si4 O5



668

TRIMETHYLSILYL 2,3,4-TRI-O-TRIMETHYLSILYL-BETA-D-ARABINOPYRANOSIDE

GOT-0973 MW: 438.2109

C17 H42 S14 O5

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 4451 MOST ABUNDANT PEAKS: 73 204 217 191 147 INLET TEMP:210 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
15	10	72	20	131	40	191	420	221	10	259	18	303	2	335	4
27	10	73	1000	133	60	192	80	229	3	260	3	304	2	336	2
31	10	74	90	143	20	193	30	230	8	261	2	305	33	393	1
41	10	75	100	147	250	204	580	231	18	265	7	306	10	394	1
43	10	101	50	148	40	205	120	232	6	266	3	307	7	423	2
45	70	103	50	149	30	206	40	233	2	279	7	308	2		
47	10	116	30	169	10	215	10	243	9	280	2	318	2		
59	50	117	30	175	10	217	580	244	2	291	18	319	2		
61	10	119	10	189	50	218	110	245	2	292	8	333	19		
69	40	129	50	190	20	219	60	258	2	293	4	334	8		

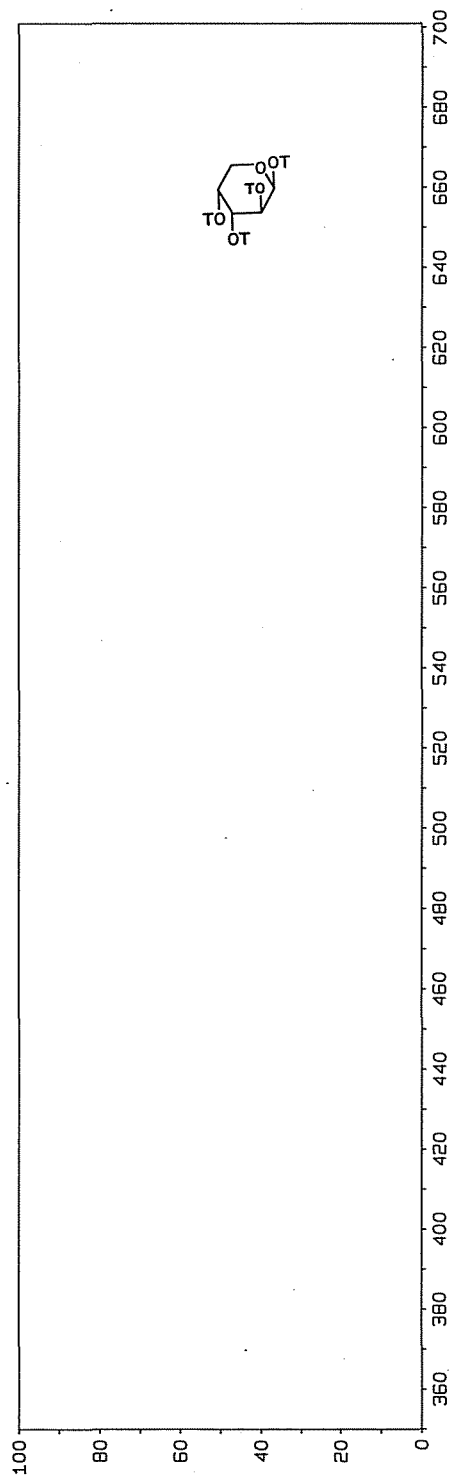
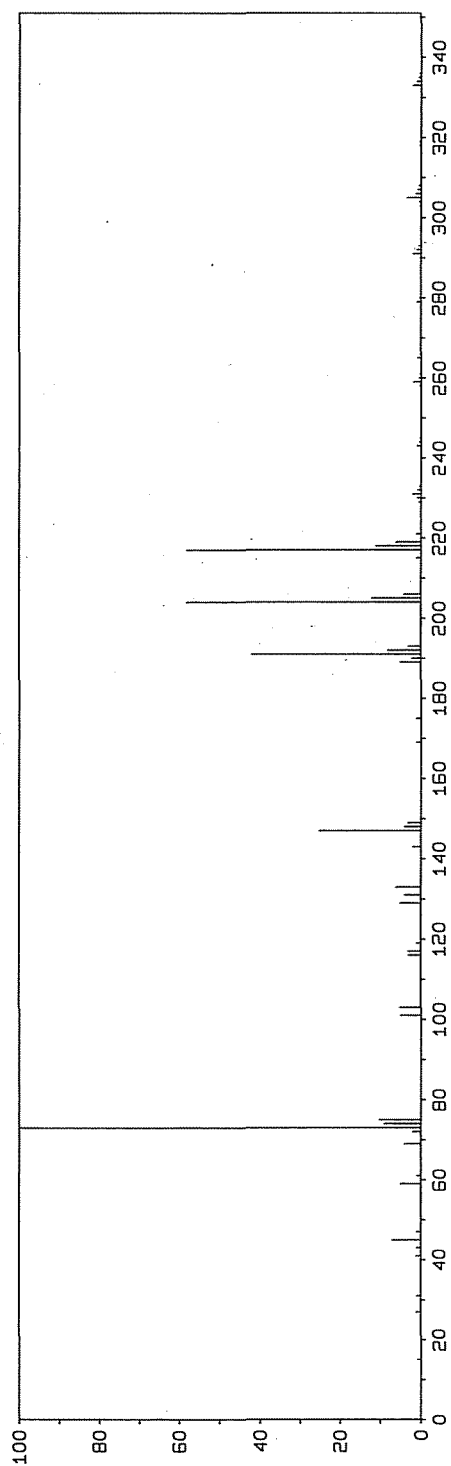
REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
GLC INLET (MOLECULE SEPARATOR); PHASE: SE-30. CORRECTED FOR BLEEDING.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

TRIMETHYLSILYL 2,3,4-TRI-O-TRIMETHYLSILYL-BETA-D-ARABINOPYRANOSIDE

MW 438.2109

GOT 973

C17 H42 Si4 O5



670

METHYL 2,3,4-TRI-O-TRIMETHYLSILYL-ALPHA-D-XYLOPYRANOSIDE

GOT-0073 MW: 380.1871

C15 H36 S13 O5

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 5920 MOST ABUNDANT PEAKS: 73 204 217 147 133 INLET TEMP:210 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
41	10	89	70	132	10	169	10	218	130	244	3	290	7	334	3
43	20	101	80	133	350	175	10	219	80	245	2	291	6	335	5
44	20	103	70	134	40	189	40	220	10	247	19	292	2	336	1
45	100	105	10	135	20	191	30	221	10	248	4	293	2	349	9
59	90	115	10	143	20	201	50	229	3	249	5	305	27	350	3
61	10	116	90	146	100	203	40	230	6	259	28	306	8	351	1
69	40	117	40	147	400	204	1000	231	17	260	7	307	4	365	2
71	40	119	10	148	70	205	190	232	5	261	5	308	1		
72	20	120	10	149	50	206	90	233	19	265	1	309	1		
73	1000	129	120	157	10	207	40	234	6	275	16	317	1		
74	90	130	20	159	30	215	20	235	3	276	4	320	1		
75	100	131	70	163	20	217	650	243	11	277	2	333	10		

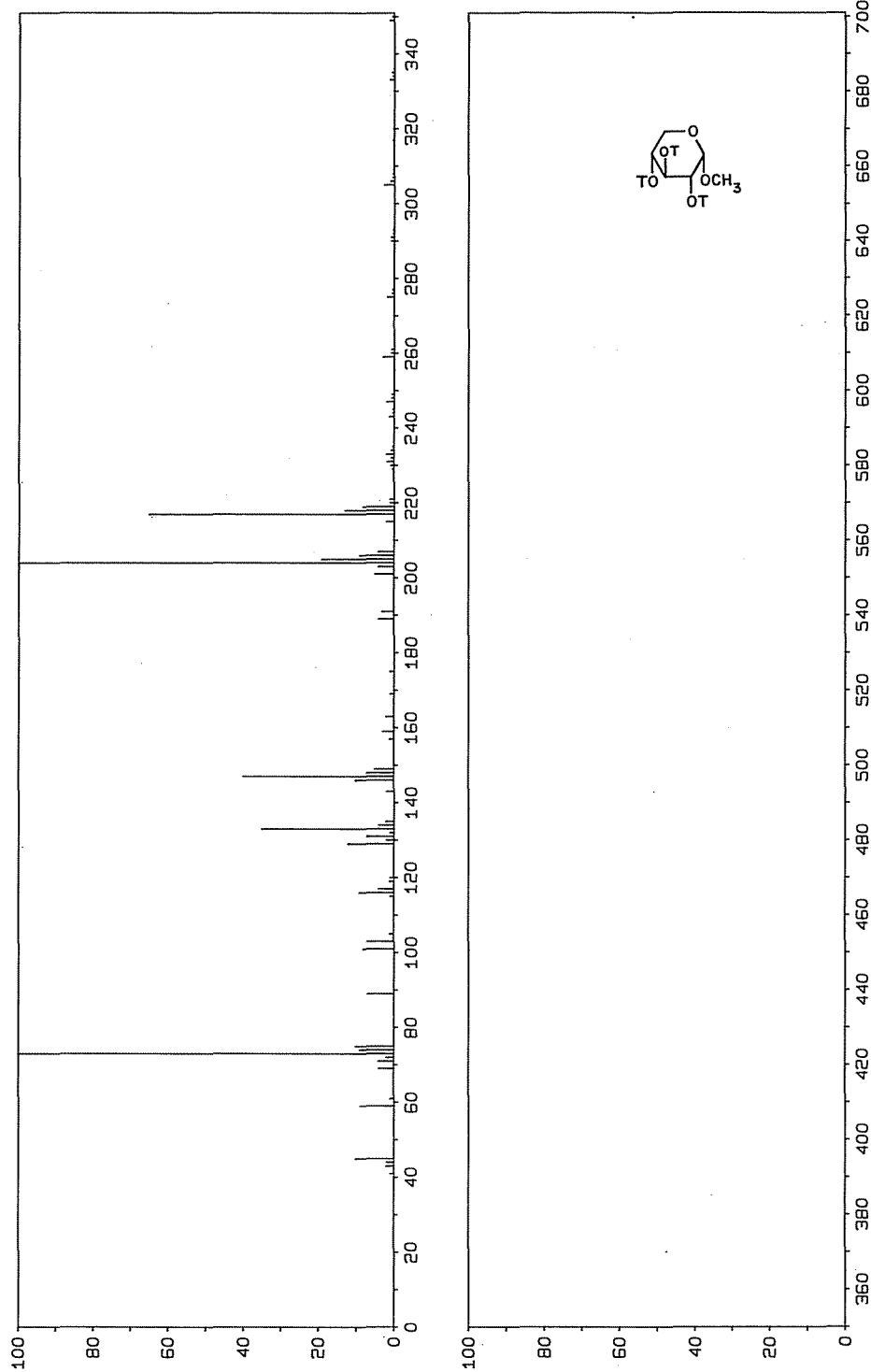
REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
GLC INLET (MOLECULE SEPARATOR); PHASE: SE-30. CORRECTED FOR BLEEDING.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

METHYL 2,3,4-TRI-O-TRIMETHYLSILYL-ALPHA-D-XYLOPYRANOSIDE

MW 380.1871

GOT 73

C15 H36 Si3 O5



TRIMETHYLSILYL 2-O-METHYL-3,4-DI-O-TRIMETHYLSILYL-XYLOPYRANOSIDE

GOT-0120 MW: 380.1871

C15 H36 Si3 O5

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

ACKNOWLEDGMENTS: DR. B. LINDBERG, STOCKHOLM, FOR SAMPLE GIFT.

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 5145 MOST ABUNDANT PEAKS:146 73 191 159 147 INLET TEMP:200 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
29	10	72	20	118	10	147	290	191	480	232	9	258	2	291	1
41	20	73	830	119	10	148	70	192	90	233	19	259	41	305	17
43	20	74	70	129	50	149	20	193	40	234	3	260	9	306	5
44	20	75	120	130	10	157	20	203	10	235	2	261	5	307	2
45	100	85	10	131	190	159	330	204	120	243	10	262	2	333	5
47	10	89	90	132	20	160	40	205	30	244	2	265	5	334	2
55	10	101	70	133	110	161	20	206	10	245	4	275	11	335	2
59	90	103	70	134	10	163	20	217	30	246	2	276	2	348	1
61	20	115	10	143	20	169	10	219	10	247	18	277	1		
69	50	116	110	145	10	189	20	230	3	248	6	279	3		
71	20	117	40	146	1000	190	10	231	28	249	2	280	1		

REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
PURE ANOMER, CONFIGURATION UNKNOWN. GLC INLET; PHASE: SE-30. CORRECTED.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

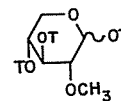
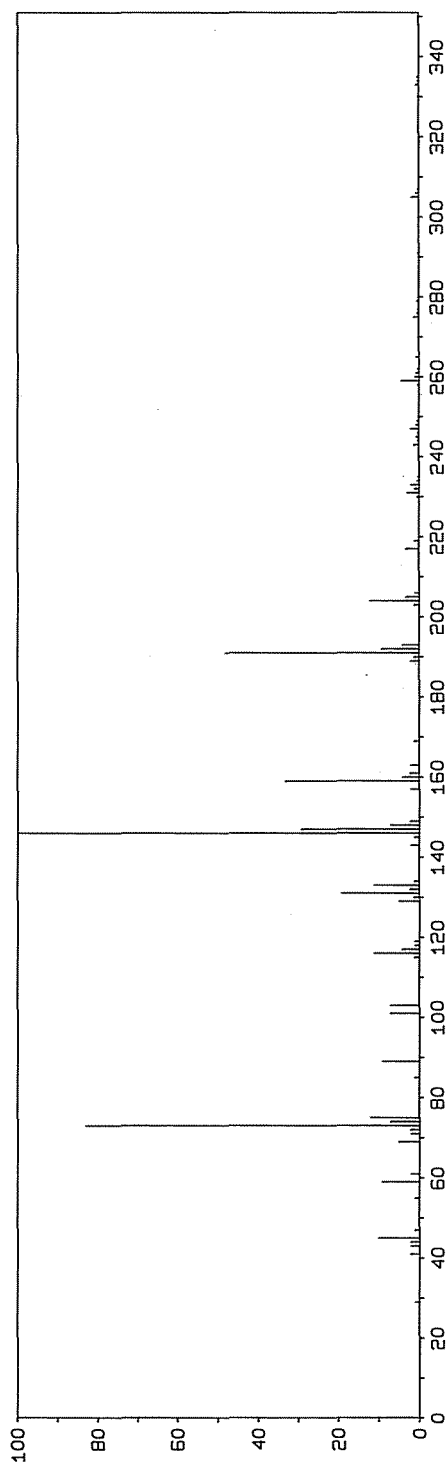
673

TRIMETHYLSILYL 2-O-METHYL-3,4-DI-O-TRIMETHYLSILYL-XYLOPYRANOSIDE

MW 380.1871

60T 120

C15 H36 Si3 O5



TRIMETHYLSILYL 3-O-METHYL-2,4-DI-O-TRIMETHYLSILYL-XYLOPYRANOSIDE

GOT-0233 MW: 380.1871

C15 H36 S13 O5

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

ACKNOWLEDGMENTS: DR. B. LINDBERG, STOCKHOLM, FOR SAMPLE GIFT.

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 5271 MOST ABUNDANT PEAKS: 217 73 146 133 218 INLET TEMP: 210 ION TEMP: 270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
29	10	73	780	118	10	146	670	204	10	232	8	259	6	305	2
41	20	74	60	119	10	147	210	207	20	233	43	260	2	318	1
43	20	75	110	129	80	148	50	215	50	234	8	261	1	333	18
44	20	85	10	130	10	149	20	216	10	235	4	265	8	334	5
45	80	89	150	131	130	159	110	217	1000	243	7	266	2	335	7
47	10	90	10	132	10	160	10	218	220	244	2	275	6	336	1
59	100	91	10	133	410	161	10	219	90	245	7	276	2		
61	10	101	50	134	40	163	30	220	10	246	2	277	2		
69	60	103	40	135	20	173	20	229	2	247	19	290	6		
71	30	116	70	143	20	189	20	230	5	248	4	291	3		
72	20	117	30	145	10	191	40	231	34	249	2	292	2		

REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
PURE ANOMER, CONFIGURATION UNKNOWN. GLC INLET; PHASE: QF=1. CORRECTED.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

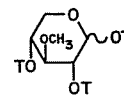
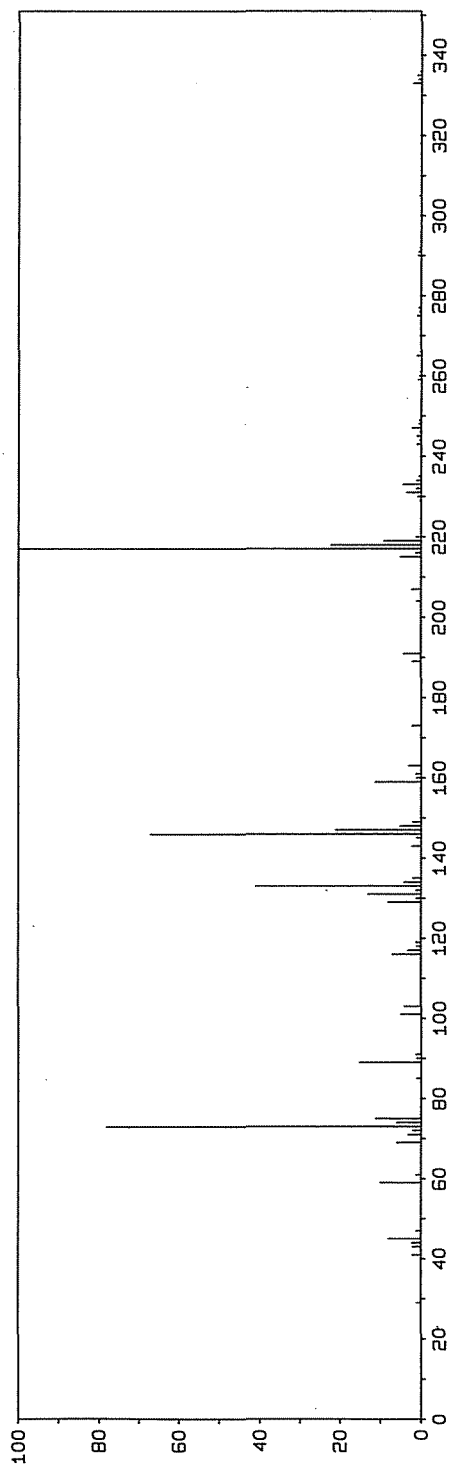
675

TRIMETHYLSILYL 3-O-METHYL-2,4-DI-O-TRIMETHYLSILYL-XYLOPYRANOSIDE

MW 380.1871

GOT 233

C15 H36 Si3 O5



676

TRIMETHYLSILYL 2,3,4-TRI-O-METHYL-XYLOPYRANOSIDE

GOT-0127 MW: 264.1393

C11 H24 SI 05

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

ACKNOWLEDGMENTS: DR. B. LINDBERG, STOCKHOLM, FOR SAMPLE GIFT.

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 4927 MOST ABUNDANT PEAKS: 88 133 101 73 115 INLET TEMP:200 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
15	20	44	10	61	20	85	60	111	10	142	1	157	9	176	5
27	20	45	210	68	20	87	20	114	10	143	9	158	2	177	2
29	50	47	20	69	30	88	1000	115	250	144	2	159	27	185	17
31	20	53	20	71	70	89	200	116	40	145	7	160	3	186	3
33	10	55	40	72	10	90	20	121	10	146	14	161	3	187	3
39	20	56	10	73	340	99	20	131	60	147	4	172	2	189	1
41	60	57	20	74	40	101	580	133	740	148	1	173	2	217	10
42	10	58	110	75	130	102	40	134	70	149	21	174	57	218	2
43	60	59	100	83	30	103	20	135	30	150	2	175	34	249	4

REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
PURE ANOMER, CONFIGURATION UNKNOWN. GLC INLET; PHASE: SE-30. CORRECTED.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 140; 0.10% FOR M/E ABOVE 140

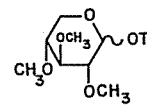
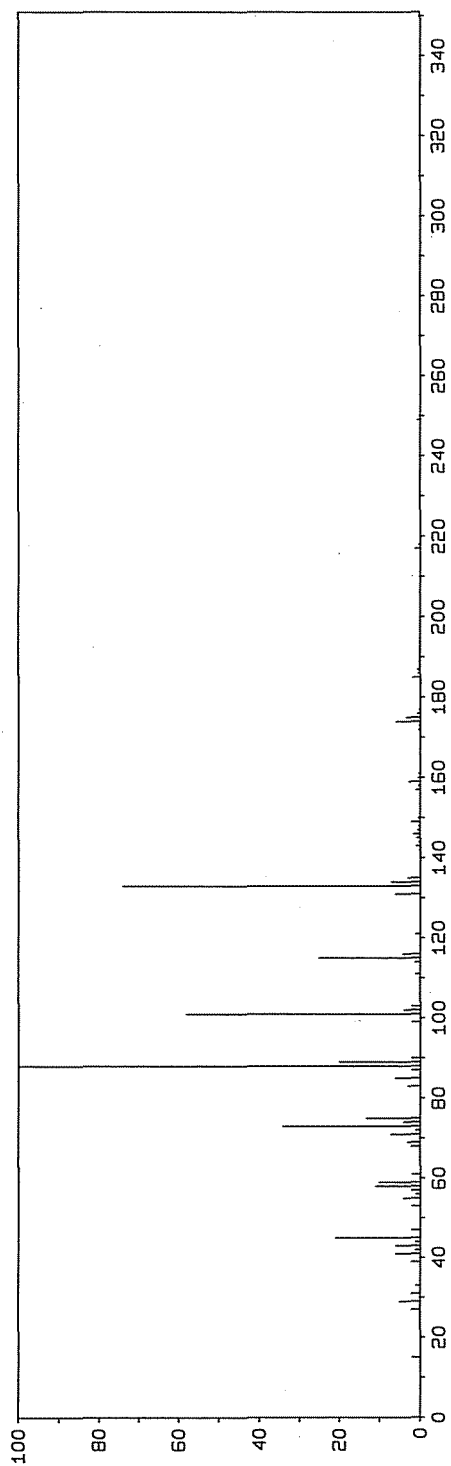
677

TRIMETHYLSILYL 2,3,4-TRI-O-METHYL-XYLOPYRANOSIDE

MW 264.1393

GOT 127

C11 H24 SI O5



678

TRIMETHYLSILYL 2,3,4-TRI-O-METHYL-LYXOPYRANOSIDE

GOT-0117 MW: 264.1393

C11 H24 SI 05

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

ACKNOWLEDGMENTS: DR. M.H.B. HAYES, BIRMINGHAM, FOR SAMPLE GIFT.

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 4855 MOST ABUNDANT PEAKS: 88 133 101 73 45 INLET TEMP:200 ION TEMP:270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
15	20	45	230	71	70	89	120	131	170	147	9	173	4	217	8
27	20	47	20	72	20	90	10	132	20	148	2	174	50	218	2
29	60	53	20	73	370	99	20	133	710	149	2	175	21	219	1
31	40	55	30	74	40	101	560	134	70	157	8	176	5	221	11
33	20	57	20	75	150	102	40	135	30	158	1	185	14		
39	10	58	110	79	10	103	30	142	1	159	19	186	2		
41	60	59	100	83	20	115	140	143	4	160	5	187	4		
42	10	61	20	85	40	116	60	144	1	161	4	189	2		
43	70	68	10	87	20	117	10	145	10	163	1	191	1		
44	20	69	20	88	1000	129	10	146	20	172	2	205	1		

REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTJDN. 71(1968)77.
PURE ANOMER, CONFIGURATION UNKNOWN. GLC INLET; PHASE: SE=30. CORRECTED.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 140; 0.10% FOR M/E ABOVE 140

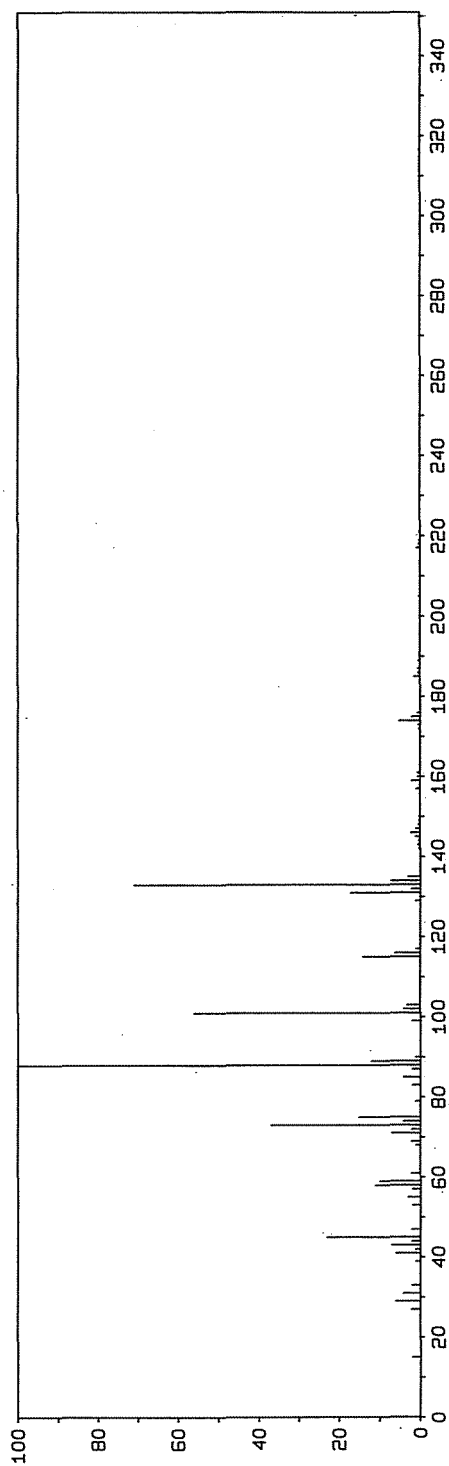
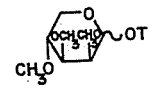
679

TRIMETHYLSILYL 2,3,4-TRI-O-METHYL-LYXOPYRANOSIDE

MW 264.1393

GOT 117

C11 H24 SI O5



680

TRIMETHYLSILYL 2,3,5-TRI-O-TRIMETHYLSILYL-ARABINOFURANOSIDE

GOT-0113 MW: 438.2109

C17 H42 Si4 O5

GORAN PETERSSON
DEPARTMENT OF ENGINEERING CHEMISTRY CHALMERS UNIVERSITY OF TECHNOLOGY
GOTHENBURG, SWEDEN

RECEIVED: JULY 14, 1969

CHECKED BY: J. HRIBAR J.A. MCCLOSKEY

INSTRUMENT: LKB 9000

TOT: 2931 MOST ABUNDANT PEAKS: 217 73 218 147 219 INLET TEMP: 200 ION TEMP: 270 EV: 70

M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.	M/E	R.A.
45	40	101	10	145	20	192	10	229	3	245	4	292	3	333	19
59	20	103	70	147	150	204	20	230	43	259	3	305	22	334	4
69	10	117	20	148	20	215	30	231	13	260	1	306	6	335	4
72	10	129	40	149	20	217	1000	232	5	261	1	307	5	393	3
73	660	131	20	189	40	218	190	233	2	263	1	308	1		
74	50	133	40	190	10	219	100	243	14	265	1	319	1		
75	70	143	10	191	60	220	20	244	2	291	8	320	2		

REFERENCE: PETERSSON, G. SAMUELSON, O.: SVENSK PAPPERSTIDN. 71(1968)77.
PURE ANOMER, CONFIGURATION UNKNOWN. GLC INLET; PHASE: SE-30. CORRECTED.
LOWER INTENSITY LIMITS: 1.0% FOR M/E BELOW 225; 0.10% FOR M/E ABOVE 225

TRIMETHYLSILYL 2,3,5-TRI-O-TRIMETHYLSILYL-ARABINOFURANOSIDE

MW 438.2109

GOT 113

C17 H42 Si4 O5

