Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supplementary Information for:

The promoting effect of pyridine ligands in the Pd-catalysed Heck-Matsuda reaction

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Abstract: An efficient Pd-catalyzed arylation reaction of challenging acyclic olefins, in the presence of an organic ligand, has been disclosed. Commercially available cheap pyridine-based ligands are able to promote good to excellent yields for poorly efficient Heck-Matsuda arylation reactions of several allylic alcohols. A wide range of electronically different arenediazonium salts bearing either electron-releasing or withdrawing groups have been used allowing the synthesis of a range of β-aryl-methoxy-lactols. The catalytic system has been optimised, along with the reaction conditions, in order to achieve remarkable yields in less than 1 h.

Data File C:\CHEM32\1\DATA\JUIN_2015\MRZ-02-06-2015 2015-06-02 15-55-28\02-06-MRZ000009.D
Sample Name: FZ107C2

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Acq. Operator   : SYSTEM                          Seq. Line :   8
Acq. Instrument : GC 7820 N2                     Location : Vial 108
Injection Date  : 6/2/2015 9:00:48 PM                 Inj :   1
                                                 Inj Volume : 0.5 µl
Acq. Method     : C:\CHEM32\1\DATA\JUIN_2015\MRZ-02-06-2015 2015-06-02 15-55-28\CETONE-N2-MRZ
-3.M
Last changed    : 6/2/2015 3:55:28 PM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ-02-06-2015 2015-06-02 15-55-28\CETONE-N2-MRZ
                  -3.M (Sequence Method)
Last changed    : 7/21/2016 3:55:34 PM by SYSTEM
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Additional Info : Peak(s) manually integrated
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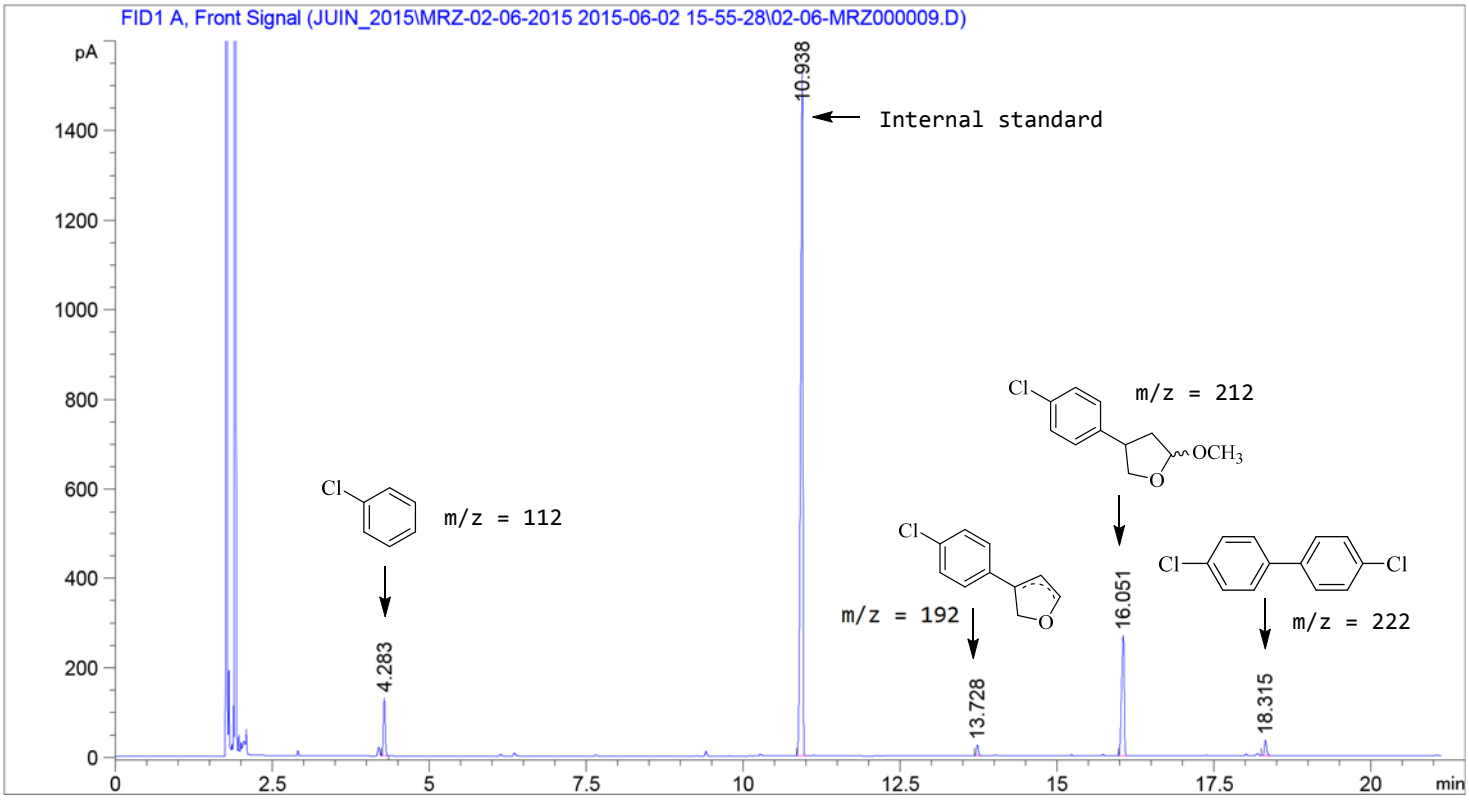


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==========================================================================================
                                  Area Percent Report
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Signal 1: FID1 A, Front Signal

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [pA*s]      [pA]        %
----|-------|----|-------|----------|----------|--------|
1     4.283 VB    0.0316  263.82303  130.64838  5.24343
2    10.938 BB    0.0403 3846.60205 1530.82581 76.45046
3    13.728 BB    0.0339   51.45147   24.14766  1.02259
4    16.051 BB    0.0420  784.76245  269.03461 15.59700
5    18.315 VB    0.0374   84.85745   34.82517  1.68653

Totals :                  5031.49645

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                         *** End of Report ***
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Data File C:\CHEM32\...A\JUILLET_2015\MRZ-21-07-2015 2015-07-21 12-34-51\MRZ210715000005.D
Sample Name: JMF27-D

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Acq. Operator   : SYSTEM                          Seq. Line :   4
Acq. Instrument : GC 7820 N2                       Location : Vial 104
Injection Date  : 7/21/2015 3:13:28 PM                 Inj :   1
                                                  Inj Volume : 0.5 µl
Acq. Method     : C:\CHEM32\1\DATA\JUILLET_2015\MRZ-21-07-2015 2015-07-21 12-34-51\CETONE-N2
MRZ-3.M
Last changed    : 7/21/2015 12:34:51 PM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\JUILLET_2015\MRZ-21-07-2015 2015-07-21 12-34-51\CETONE-N2-
                  MRZ-3.M (Sequence Method)
Last changed    : 7/21/2016 4:06:29 PM by SYSTEM
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Additional Info : Peak(s) manually integrated
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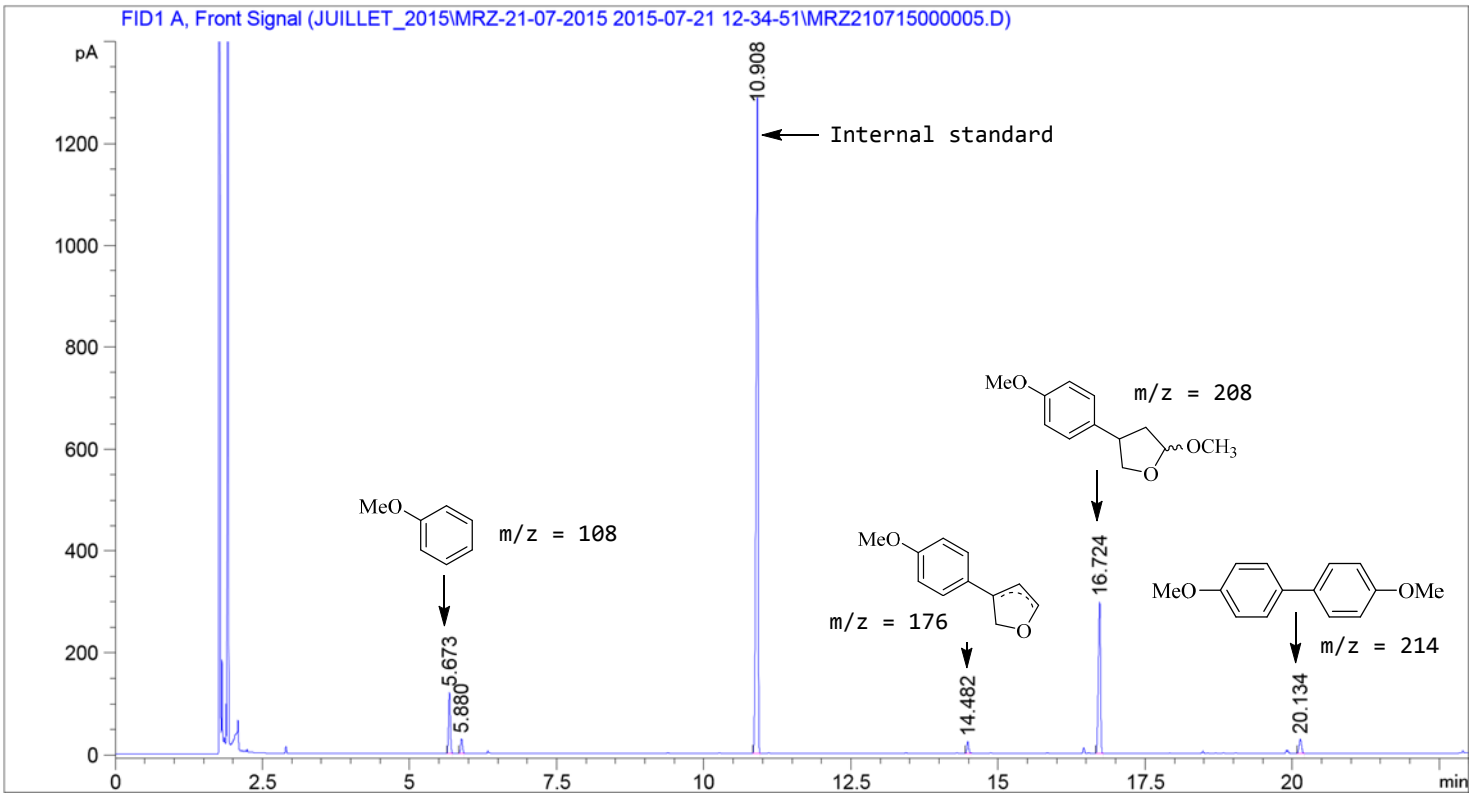


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                                        Area Percent Report
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Signal 1: FID1 A, Front Signal

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [pA*s]      [pA]        %
----|-------|----|-------|----------|----------|--------|
1     5.673 BB    0.0325  251.52357  119.58798  5.84342
2     5.880 BB    0.0332   61.10085   28.33305  1.41950
3    10.908 BB    0.0364 3010.58398 1282.58557 69.94213
4    14.482 BB    0.0337   44.42036   20.94839  1.03198
5    16.724 BB    0.0411  764.76294  295.98099 17.76703
6    20.134 BB    0.0457   78.48297   27.19367  1.82332

Totals :                  4210.8744

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                         *** End of Report ***
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Data File C:\CHEM32\1\DATA\JUIN_2015\MRZ23-06-2015. 2015-06-23 12-14-22\23-06-MRZ000002.D
Sample Name: AL20-1

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==========================================================================
Acq. Operator   : SYSTEM                          Seq. Line :   1
Acq. Instrument : GC 7820 N2                     Location : Vial 101
Injection Date  : 6/23/2015 1:00:31 PM                Inj :   2
                                                 Inj Volume : 0.5 µl
Acq. Method     : C:\CHEM32\1\DATA\JUIN_2015\MRZ23-06-2015. 2015-06-23 12-14-22\CETONE-N2-MRZ
-3.M
Last changed    : 6/23/2015 12:14:22 PM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ23-06-2015. 2015-06-23 12-14-22\DIOL-NO2-N2-
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Additional Info : Peak(s) manually integrated
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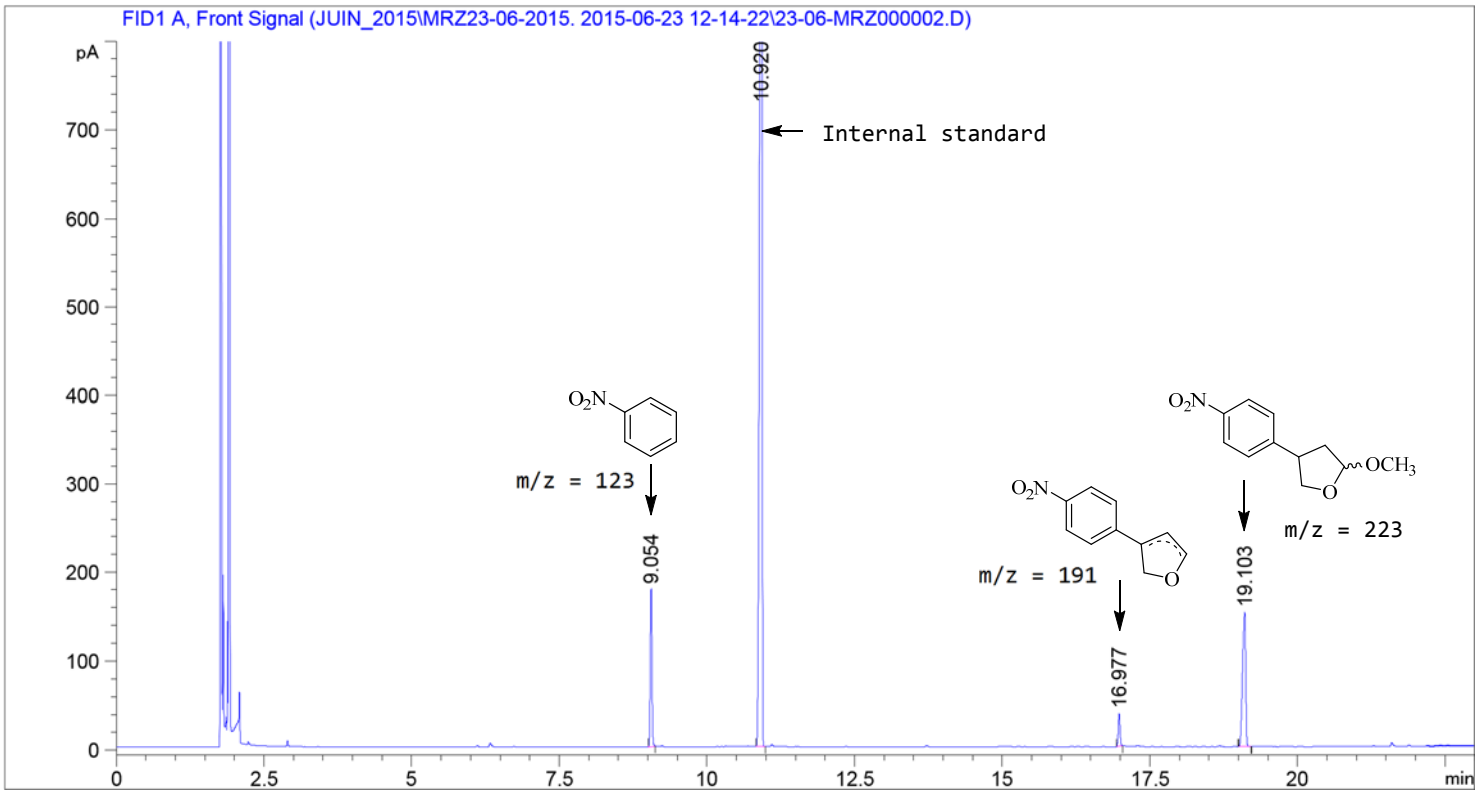


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                        Area Percent Report
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Signal 1: FID1 A, Front Signal

Peak RetTime  Type    Width     Area      Area     Name
  #   [min]           [min]   [pA*s]       %
----|-------|------|-------|----------|--------|--------------------
1   9.054 BB        0.0312   349.31161  6.77902 ?
2   10.920 BB   I   0.0386  4083.31665 79.24408 ref int
3   16.977 BB       0.0323    75.87704  1.47253 ?
4   19.103 BB       0.0613   559.45679 10.85726 product

Totals :                    5067.9619

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Data File C:\CHEM32\...BRE-2015\MRZ-20-10-2015 JORDI 2015-10-20 18-03-07\20-10-150000002.D
Sample Name: jmf 49 a1

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==========================================================================
Acq. Operator   : SYSTEM                          Seq. Line :   1
Acq. Instrument : GC 7820 N2                     Location : Vial 101
Injection Date  : 10/20/2015 6:42:46 PM               Inj :   2
                                                 Inj Volume : 0.5 µl
Acq. Method     : C:\CHEM32\1\DATA\OCTOBRE-2015\MRZ-20-10-2015 JORDI 2015-10-20 18-03-07
                  \CETONE-N2-MRZ-3.M
Last changed    : 10/20/2015 6:03:07 PM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\OCTOBRE-2015\MRZ-20-10-2015 JORDI 2015-10-20 18-03-07
                  \CETONE-N2-MRZ-3.M (Sequence Method)
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Additional Info : Peak(s) manually integrated
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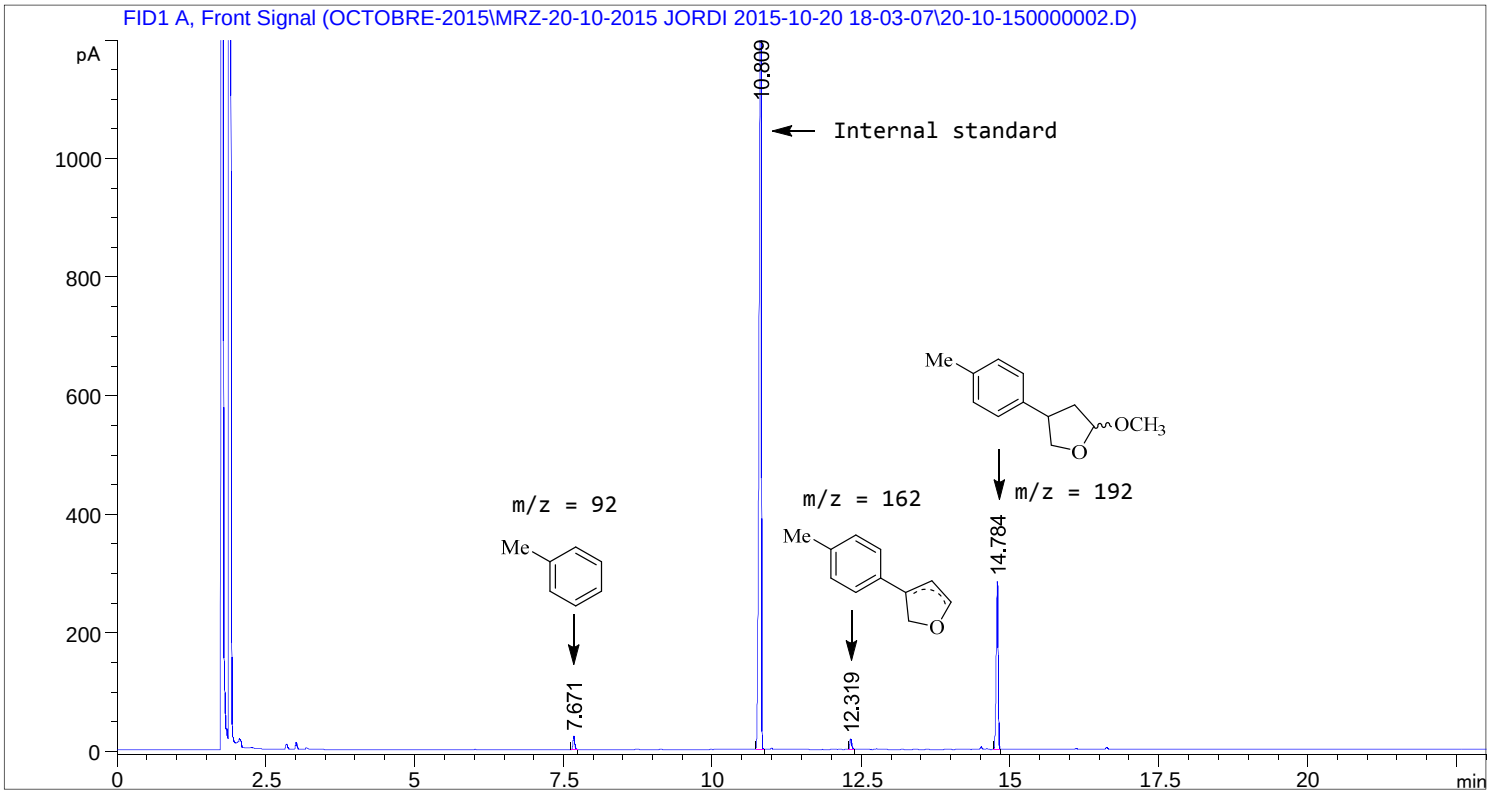


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                                        Area Percent Report
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Signal 1: FID1 A, Front Signal

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [pA*s]      [pA]        %
----|-------|----|-------|----------|----------|--------|
1     7.671 BB    0.0328   47.44844   22.33588  1.08857
2    10.809 BB    0.0380 3582.16724 1439.12085 82.18280
3    12.319 BB    0.0332   38.83825   17.97711  0.89103
4    14.784 BB    0.0361  635.14612  283.89560 14.57165

Totals :                  4303.5999

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                          *** End of Report ***
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Data File C:\CHEM32\1\DATA\JUIN_2015\MRZ-24-06-15-2 2015-06-24 15-51-03\24-06-MRZB00008.D
Sample Name: AL21-2

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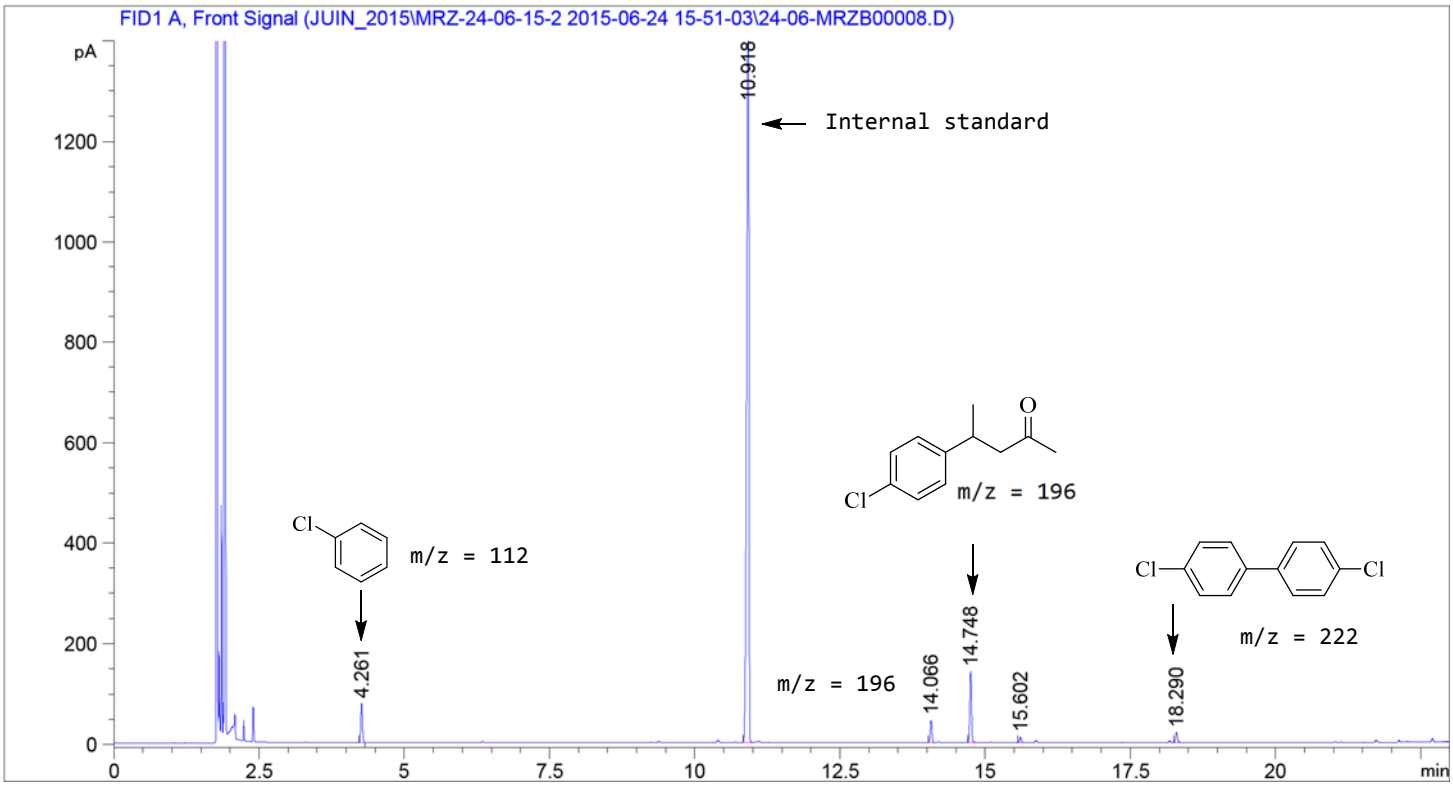
Acq. Operator : SYSTEM Seq. Line : 7
Acq. Instrument : GC 7820 N2 Location : Vial 107
Injection Date : 6/24/2015 8:18:11 PM Inj : 1
Inj Volume : 0.5 µl
Acq. Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ-24-06-15-2 2015-06-24 15-51-03\CETONE-N2-MRZ-3.M
Last changed : 6/24/2015 3:51:03 PM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ-24-06-15-2 2015-06-24 15-51-03\CETONE-N2-MRZ-3.M (Sequence Method)
Last changed : 7/21/2016 4:15:53 PM by SYSTEM
(modified after loading)
Additional Info : Peak(s) manually integrated



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Area Percent Report

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Signal 1: FID1 A, Front Signal

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	4.261	BB	0.0324	154.83516	77.14390	3.16783
2	10.918	BB	0.0395	4084.89526	1616.71582	83.57448
3	14.066	BB	0.0313	89.09248	44.52494	1.82278
4	14.748	BB	0.0318	286.72934	140.26146	5.86631
5	15.602	BB	0.0322	21.72890	10.48517	0.44456
6	18.290	BB	0.0356	44.95020	19.72421	0.91965

Totals : 4682.2311

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*** End of Report ***

Data File C:\CHEM32\1\DATA\JUIN_2015\MRZ24-06-2015-1 2015-06-24 11-13-30\24-06-MRZ000005.D
Sample Name: AL21-1

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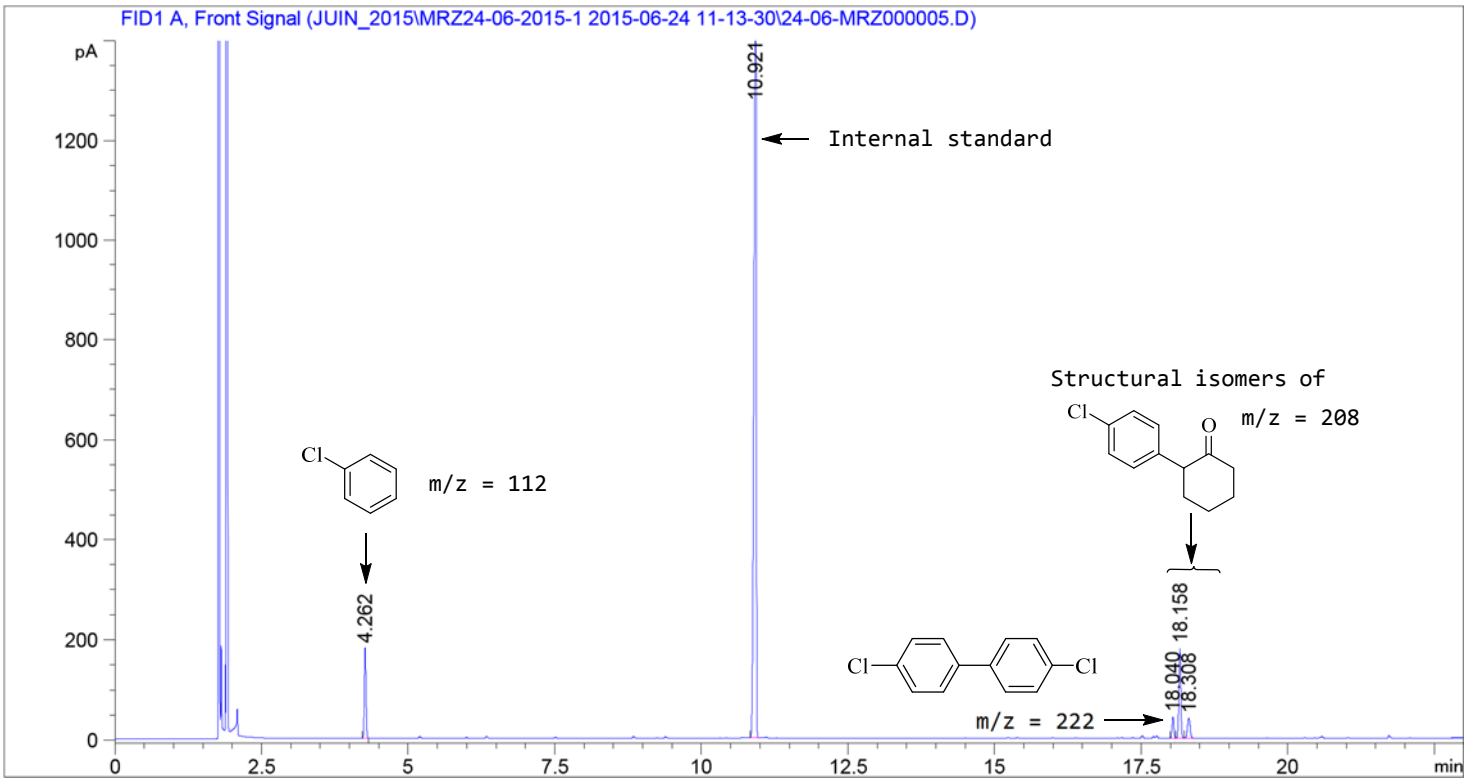
Acq. Operator : SYSTEM Seq. Line : 4
Acq. Instrument : GC 7820 N2 Location : Vial 104
Injection Date : 6/24/2015 1:51:10 PM Inj : 1
Inj Volume : 0.5 µl
Acq. Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ24-06-2015-1 2015-06-24 11-13-30\CETONE-N2 MRZ-3.M
Last changed : 6/24/2015 11:13:30 AM by SYSTEM
Analysis Method : C:\CHEM32\1\DATA\JUIN_2015\MRZ24-06-2015-1 2015-06-24 11-13-30\CETONE-N2-MRZ-3.M (Sequence Method)
Last changed : 7/21/2016 4:17:20 PM by SYSTEM
(modified after loading)
Additional Info : Peak(s) manually integrated



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Area Percent Report

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Signal 1: FID1 A, Front Signal

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	4.262	BB	0.0312	357.86322	179.71759	6.72182
2	10.921	BB	0.0363	4238.97656	1688.62866	79.62153
3	18.040	BV	0.0343	92.53336	42.66665	1.73807
4	18.158	VB	0.0367	410.15247	178.96503	7.70397
5	18.308	BB	0.0531	129.16893	39.59488	2.42621

Totals : 5228.6943

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