

## Phenova Proficiency Testing Study In Support of the Oregon MMJ Dispensary Program

Phenova, Inc. announces the opening of Three Proficiency Testing Studies as well as Rapid Return Studies in support of the Oregon MMJ Dispensary Program. Standards in this initial study include Pesticide Residues by LC technologies, Pesticide Residues by GC technologies, and Residual Solvents. The analytes included in each standard, their Action Levels (can be equated to the minimum detection limits for their respective technologies), and the potentially spiked concentration ranges are defined in the **Oregon Medical Marijuana Dispensary Program Rules and Statutes, Exhibit A Tables 3 and 4**, and can be found on the Oregon.gov website (<http://www.oregon.gov/oha/mmj/Pages/rules.aspx>).

**Study #1 Opening Date: June 30<sup>th</sup>, 2016, Closing Date: July 15<sup>th</sup>, 2016 (Reports provided by July 21<sup>st</sup>, 2016)**

**Study #2 Opening Date: July 25<sup>th</sup>, 2016, Closing Date: August 9<sup>th</sup>, 2016 (Reports provided by August 15<sup>th</sup>, 2016)**

**Study #3 Opening Date: August 18<sup>th</sup>, 2016, Closing Date: Sept. 2<sup>nd</sup>, 2016 (Reports provided by Sept 8<sup>th</sup>, 2016)**

**Rapid Return Studies (RR Catalog Numbers) available at any time, reports provided within 3 business days of data reporting.**

**QC Standards available, include Certificates of Analysis (ORELAP does not allow concurrent analysis of QC's with PT's/RR's)**

Participants should contact Phenova directly to place orders for PT standards and to receive information on how to set up an account and report data through Phenova's web portal (required for data reporting in this study). Phenova can accept purchase orders or credit cards for standards and shipment. Standards can be ordered **at any time during the study dates above**, it is required that all data be reported through Phenova's web portal prior to midnight on the indicated closing date. To order standards, or if you have any questions, please contact:

**Ty Garber, Director of New Product Development**

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**303-940-0033**

A list of the standards being offered, as well as specific information regarding the standards, is included below.

### LC/MS Pesticide Residue Proficiency Standard

**Catalog#** PT-LCPEST-MMJ, QC-LCPEST-MMJ, RR-LCPEST-MMJ

**Price:** PT-LCPEST-MMJ, \$300 each; QC-LCPEST-MMJ, \$250 each; RR-LCPEST-MMJ, \$350 each (additional standards for PT's and RR's, not QC's can be ordered at a 50% discount), shipping and handling additional

**Description:** A set of 2x1 gram identically spiked samples in an amber screw cap vials, and also including 1g unspiked matrix, suitable for LC and LC/MS technologies, containing a subset of the analytes listed below spiked within the specified concentration range. Matrix is finely ground and dried hops.

**Special Note:** Within sample homogeneity has not been assured, instructions direct use of 100% of provided sample, sub-sampling is not suggested. Assume 0% moisture, no dry weight determination necessary.

Analyte	PTRL <sup>1</sup>	Range <sup>2</sup>	Analyte	PTRL <sup>1</sup>	Range <sup>2</sup>	Analyte	PTRL <sup>1</sup>	Range <sup>2</sup>
Abamectin <sup>3</sup>	0.5	3.8 - 6.3	Fenoxycarb	0.2	1.5 - 2.5	Phosmet	0.2	1.5 - 2.5
Acetamiprid	0.2	1.5 - 2.5	Fenpyroximate	0.4	3.0 - 5.0	Piperonyl Butoxide	2	15 - 25
Aldicarb	0.4	3.0 - 5.0	Flonicamid	1	7.5 - 13	Prallethrin	0.2	1.5 - 2.5
Azoxystrobin	0.2	1.5 - 2.5	Hexythiazox	1	7.5 - 12.5	Propiconazole	0.4	3.0 - 5.0
Bifenazate	0.2	1.5 - 2.5	Imazalil	0.2	1.5 - 2.5	Propoxur	0.2	1.5 - 2.5
Boscalid	0.4	3.0 - 5.0	Imidacloprid	0.4	3.0 - 5.0	Pyridaben	0.2	1.5 - 2.5
Carbaryl	0.2	1.5 - 2.5	Kresoxim-methyl	0.4	3.0 - 5.0	Spinosad	0.2	1.5 - 2.5
Carbofuran	0.2	1.5 - 2.5	Malathion	0.2	1.5 - 2.5	Spiromesifen	0.2	1.5 - 2.5
Chlorantraniliprole	0.2	1.5 - 2.5	Metalaxyl	0.2	1.5 - 2.5	Spirotetramat	0.2	1.5 - 2.5
Clofentezine	0.2	1.5 - 2.5	Methiocarb	0.2	1.5 - 2.5	Spiroxamine	0.4	3.0 - 5.0
Daminozide	1	7.5 - 13	Methomyl	0.4	3.0 - 5.0	Tebuconazole	0.4	3.0 - 5.0
DDVP (Dichlorvos)	1	7.5 - 13	Myclobutanil	0.2	1.5 - 2.5	Thiacloprid	0.2	1.5 - 2.5
Diazinon	0.2	1.5 - 2.5	Naled	0.5	3.8 - 6.3	Thiamethoxam	0.2	1.5 - 2.5
Dimethoate	0.2	1.5 - 2.5	Oxamyl	1	7.5 - 13	Trifloxystrobin	0.2	1.5 - 2.5
Etoazole	0.2	1.5 - 2.5	Paclbutrazol	0.4	3.0 - 5.0			

**Footnotes:** 1- "PTRL" refers to the Action Level specified in the Oregon Medical Marijuana Dispensary Program Rules and Statutes in ug/g; 2- "Range" refers to concentration potentially spiked in PT sample, ug/g; 3- Abamectin equivalent to Avermectin-B1a and Avermectin-B1b combined.

## Phenova Proficiency Testing Study In Support of the Oregon MMJ Dispensary Program

### GC/MS Pesticide Residue Proficiency Standard

**Catalog#** PT-GCPEST-MMJ, QC-GCPEST-MMJ, RR-GCPEST-MMJ

**Price:** PT-GCPEST-MMJ, \$220 each; QC-GCPEST-MMJ, \$180 each; RR-GCPEST-MMJ, \$260 each (additional standards for PT's and RR's, not QC's, can be ordered at a 50% discount), shipping and handling additional

**Description:** A set of 2x1 gram identically spiked samples in an amber screw cap vials, and also including 1g unspiked matrix, suitable for GC and GC/MS technologies, containing a subset of the analytes listed below spiked within the specified concentration range. Matrix is finely ground and dried hops.

**Special Note:** Within sample homogeneity has not been assured, instructions direct use of 100% of provided sample, sub-sampling is not suggested. Assume 0% moisture, no dry weight determination necessary.

Analyte	PTRL <sup>1</sup>	Range <sup>2</sup>	Analyte	PTRL <sup>1</sup>	Range <sup>2</sup>
Acephate	0.4	3.0 - 5.0	Etofenprox	0.4	3.0 - 5.0
Acequinocyl	2	15 - 25	Fipronil	0.4	3.0 - 5.0
Bifenthrin	0.2	1.5 - 2.5	Fludioxonil	0.4	3.0 - 5.0
Chlorfenapyr	1	7.5 - 13	Methyl Parathion	0.2	1.5 - 2.5
Chlorpyrifos	0.2	1.5 - 2.5	MGK 264	0.2	1.5 - 2.5
Cyfluthrin	1	7.5 - 13	Permethrin(s), -cis + -trans <sup>3</sup>	0.2	1.5 - 2.5
Cypermethrins, total isomers <sup>3</sup>	1	7.5 - 13	Pyrethrin(s), total isomers <sup>3</sup>	2	15 - 25
Ethoprophos	0.2	1.5 - 2.5			

**Footnotes:** 1- "PTRL" refers to the Action Level specified in the Oregon Medical Marijuana Dispensary Program Rules and Statutes in ug/g; 2- "Range" refers to concentration potentially spiked in PT sample, ug/g; 3- Permethrin and Pyrethrin isomer designations are specified in the Oregon Medical Marijuana Dispensary Program Rules and Statutes.

### GC Residual Solvents Proficiency Standard

**Catalog#** PT-RSO-MMJ, QC-RSO-MMJ, RR-RSO-MMJ

**Price:** PT-RSO-MMJ: \$200 each, QC-RSO-MMJ: \$160 each, RR-RSO-MMJ: \$225 each (additional standards for PT's and RR's, not QC's, can be ordered at a 50% discount), shipping and handling additional

**Description:** Standard comes as a set including a 1.2mL spiking concentrate in Methanol flame sealed in a 2mL amber ampoule and approximately 5grams of blank oil matrix (organic oil such as Safflower or Sunflower) contained in a clear screw cap vial. This standard is suitable for GC, GC/MS and GC/MS-MS headspace analysis, and will contain a subset of the analytes listed below spiked within the specified concentration range.

**Special Note:** Instructions direct weighing 1.00 grams of blank oil matrix into a headspace vial, and spiking a 100uL volume of the spiking concentrate using a gastight syringe, immediately sealing the headspace vial and analyzing as normal.

Analyte <sup>1</sup>	PTRL <sup>2</sup>	Range <sup>3</sup>	Analyte <sup>1</sup>	PTRL <sup>2</sup>	Range <sup>3</sup>	Analyte <sup>1</sup>	PTRL <sup>2</sup>	Range <sup>3</sup>
1,4-Dioxane	380	950 - 4750	Dichloromethane	600	1500 - 7500	Pentanes <sup>5</sup>	5000	12500 - 62500
2-Butanol	5000	12500 - 62500	Ethanol	5000	12500 - 62500	Tetrahydrofuran	720	1800 - 9000
2-Ethoxyethanol	160	400 - 2000	Ethyl Acetate	5000	12500 - 62500	Toluene	890	2225 - 11100
2-Propanol (IPA)	5000	12500 - 62500	Ethyl Ether	5000	12500 - 62500	Total Xylenes <sup>6</sup>	2170	5425 - 27100
Acetone	5000	12500 - 62500	Ethylene Glycol	620	1550 - 7750			
Acetonitrile	410	1025 - 5125	Ethylene Oxide	50	125 - 625			
Benzene	2	5 - 25	n-Heptane	5000	12500 - 62500			
Cumene	70	175 - 875	Total Hexanes <sup>4</sup>	290	725 - 3630			
Cyclohexane	3880	9700 - 48500	Isopropyl Acetate	5000	12500 - 62500			

**Footnotes:** 1- Analytes in this list are specified in the Oregon Medical Marijuana Dispensary Program Rules and Statutes. However, due to technical challenges of analyte inclusion and/or interferences based on the spiking concentrate solvent, the following analytes have been left off of this list: Propane isomers, Butane isomers, and Methanol (spiking concentrate is in Methanol); 2- "PTRL" refers to the Action Level specified in the Oregon Medical Marijuana Dispensary Program Rules and Statutes in ug/g; 3- "Range" refers to concentration potentially spiked in PT sample, ug/g; 4- "Total Hexanes" include the sum of isomers n-Hexane, 2-Methylpentane, 3-Methylpentane, 2-Dimethylpentane and 2,3-Dimethylpentane; 5- "Total Pentanes" include the sum of isomer n-Pentane, iso-Pentane and neo-Pentane; 6- Total Xylenes include the sum of 1,2-Dimethylbenzene (o-Xylene), 1,3-Dimethylbenzene (m-Xylene), 1,4-Dimethylbenzene (p-Xylene), and Ethylbenzene.