# Atmospheric Analysis & Consulting, Inc.

| | |
|---|---|
| Client | : SWAPE. |
| Client Project Name | : Bridgeton Sanitary Landfill Air Quality Assessment |
| Client Project No. | : NA |
| AAC Project No. | : 130456 |
| Reporting Date | : 05/06/2013 |

On April 17 and 18, 2013, Atmospheric Analysis & Consulting, Inc. received five (5) liquid samples for Amines Analysis by AAC HPLC Amines Method. Upon receipt the samples were assigned unique Laboratory ID numbers as follows:

| Client Sample ID | AAC Sample ID |
|---|---|
| BZ-1-Amines | 130436-62454 |
| F-1-Amines | 130436-62463 |
| F-2-Amines | 130436-62472 |
| F-3-Amines | 130436-62481 |
| Blank Amines | 130436-62487 |

Amines Analysis – The samples were analyzed by HPLC after derivitization. A 20µL aliquot of the extract was analyzed by HPLC/UV following the analytical protocols of AAC Method Amines as specified in the SOW. Holding times for preparation and analysis were complied with.

No problems were encountered during receiving, preparation, and/or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# Amines.HPLC.01.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of the data results, please contact the undersigned.

Marcus Hueppe
Laboratory Director

This report consists of 58 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837



1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

FAC# 130456

AMENDED*

## CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

*Bridgeton Sanitary Landfill Air Quality Assessment*

| | |
|---|---|
| Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE | Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011 |
| Project Manager: PAUL ROSENFELD, PH.D. | Date: 4/17/13 Page 1 of 4 |
| Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401 | |
| Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT | |
| Sampled By: | Sampler Signature: |

| LAB ID | SAMPLE ID NUMBER | Type | Date | Time | VOCs - EPA TO-15 | Reduced Sulfur Compounds - ASTM D5504 | Carbonyls - EPA TO-11A | Carboxlyic Acids - Tube GC-MS | HCL - NIOSH 7903 | Ammonia - OSHA ID-188 | SO2 - OSHA ID-200 | HCN - NIOSH 6010 | Amines - NIOSH 2010M | Fixed Gases - EPA 3C | PAHs / Dioxins EPA TO-13A / 9A | Mercury - NIOSH 6009 | Odor Evaluation | Special Instructions / Conditions of Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62447 | BZ-1 – Canister | | 4/16/13 | 15:48 | X | X | | | | | | | | X | | | | 1 SUMMA |
| 62448 | – DNPH | | | 15:56 | | | X | | | | | | | | | | | 1 TUBE |
| 62449 | – Acidr | | | 16:01 | | | | X | | | | | | | | | | 1 TUBE |
| 62450 | – HCL | | | 16:02 | | | | | X | | | | | | | | | 1 TUBE |
| 62451 | – Ammonia | | | 15:55 | | | | | | X | | | | | | | | 1 TUBE |
| 62452 | – SO2 | | | 16:00 | | | | | | | X | | | | | | | 1 TUBE |
| 62453 | – HCN | | | 16:03 | | | | | | | | X | | | | | | 1 TUBE |
| 62454 | – Amines | | | 15:54 | | | | | | | | | X | | | | | 1 TUBE |
| 62455 | – Mercury | | | 15:58 | | | | | | | | | | | | X | | 1 TUBE |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

REQUESTED TESTS / ANALYSES

| | |
|---|---|
| Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks. | QC Requirements: Provide Level IV QC Package for all Analyses. |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | Date: 4/17/13 | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: 4/17/13 | Time: 1940 |

*SOIL / WATER / AIR PROTECTION ENTERPRISE*

AAC# 130456

AMENDED *

## CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

*Bridgeton Sanitary Landfill Air Quality Assessment*

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE

Project Manager: PAUL ROSENFELD, PH.D.

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

Sampler Signature:

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 4/17/13 Page 2 of 4

REQUESTED TESTS / ANALYSES

| LAB ID | SAMPLE ID NUMBER | Type | Date | Time | VOCS - EPA TO-15 | Reduced Sulfur Compounds - ASTM D5504 | Carbonyls - EPA TO-11A | Carboxlyic Acids - Tube GC-MS | HCL - NIOSH 7903 | Ammonia - OSHA ID-188 | SO2 - OSHA ID-200 | HCN - NIOSH 6010 | Amines - NIOSH 2010M | Fixed Gases - EPA 3C | PAHs / Dioxins EPA TO-13A / 9A | Mercury - NIOSH 6009 | Odor Evaluation | Special Instructions / Conditions of Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62456 | F-1 - Canister | | 4/16/13 | 13:12 | X | X | | | | | | | | X | | | | 1 SUMMA |
| 62457 | - DNPH | | " | 13:36 | | | X | | | | | | | | | | | 1 TUBE |
| 62458 | - Acids | | | 13:30 | | | | X | | | | | | | | | | 1 TUBE |
| 62459 | - HCL | | | 13:34 | | | | | X | | | | | | | | | 1 TUBE |
| 62460 | - Ammonia | | | 13:28 | | | | | | X | | | | | | | | 1 TUBE |
| 62461 | - SO2 | | | 13:39 | | | | | | | X | | | | | | | 1 TUBE |
| 62462 | - HCN | | | 13:22 | | | | | | | | X | | | | | | 1 TUBE |
| 62463 | - Amines | | | 13:17 | | | | | | | | | X | | | | | 1 TUBE |
| 62464 | - Mercury | | " | 13:24 | | | | | | | | | | | | X | | 1 TUBE |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: * | Date: 4/17/13 | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: 4/17/13 | Time: 0940 |

SOIL / WATER / AIR PROTECTION ENTERPRISE

AAC# 130956

AMENDED

# CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

*Bridgeton Sanitary Landfill Air Quality Assessment*

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 4/17/13 Page 3 of 4

Project Manager: PAUL ROSENFELD, PH.D.

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

Sampler Signature:

**REQUESTED TESTS / ANALYSES**

| LAB ID | SAMPLE ID NUMBER | Type | Date | Time | VOCs - EPA TO-15 | Reduced Sulfur Compounds - ASTM D5504 | Carbonyls - EPA TO-11A | Carboxlyic Acids - Tube GC-MS | HCL - NIOSH 7903 | Ammonia - OSHA ID-188 | SO2 - OSHA ID-200 | HCN - NIOSH 6010 | Amines - NIOSH 2010M | Fixed Gases - EPA 3C | PAHs / Dioxins EPA TO-13A / 9A | Mercury - NIOSH 6009 | Odor Evaluation | Special Instructions / Conditions of Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62465 | F-2 - Canister | | 4/16/13 | 14:12 | X | X | | | | | | | | X | | | | 1 SUMMA |
| 62466 | - DNPH | | | 14:23 | | | X | | | | | | | | | | | 1 TUBE |
| 62467 | - Acids | | | 14:19 | | | | X | | | | | | | | | | 1 TUBE |
| 62468 | - HCl | | | 14:39 | | | | | X | | | | | | | | | 1 TUBE |
| 62469 | - Ammonia | | | 14:45 | | | | | | X | | | | | | | | 1 TUBE |
| 62470 | - SO2 | | | 14:31 | | | | | | | X | | | | | | | 1 TUBE |
| 62471 | - HCN | | | 14:34 | | | | | | | | X | | | | | | 1 TUBE |
| 62472 | - Amines | | | 14:50 | | | | | | | | | X | | | | | 1 TUBE |
| 62473 | - Mercury | | | 14:43 | | | | | | | | | | | | X | | 1 TUBE |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | Date: 4/17/13 | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: 4/17/13 | Time: 940 |

AAC# 130456

Amended*

## CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

*Bridgeton Sanitary Landfill Air Quality Assessment*

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 4/17/13 Page 4 of 4

Project Manager: PAUL ROSENFELD, PH.D.

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By: | Sampler Signature:

**REQUESTED TESTS / ANALYSES**

| LAB ID | SAMPLE ID NUMBER | Type | Date | Time | VOCS - EPA TO-15 | Reduced Sulfur Compounds - ASTM D5504 | Carbonyls - EPA TO-11A | Carboxylic Acids - Tube GC-MS | HCL - NIOSH 7903 | Ammonia - OSHA ID-188 | SO2 - OSHA ID-200 | HCN - NIOSH 6010 | Amines - NIOSH 2010M | Fixed Gases - EPA 3C | PAHs / Dioxins EPA TO-13A / 9A | Mercury - NIOSH 6009 | Odor Evaluation | Special Instructions / Conditions of Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62474 | F-3 - Canister | | 4/16/13 | 15:30 | X | X | | | | | | | | X | | | | 1 SUMMA |
| 62475 | - DNPH | | | 15:20 | | | X | | | | | | | | | | | 1 TUBE |
| 62476 | - Acids | | | 15:14 | | | | X | | | | | | | | | | 1 TUBE |
| 62477 | - HCL | | | 15:10 | | | | | X | | | | | | | | | 1 TUBE |
| 62478 | - Ammonia | | | 15:22 | | | | | | X | | | | | | | | 1 TUBE |
| 62479 | - SO2 | | | 15:26 | | | | | | | X | | | | | | | 1 TUBE |
| 62480 | - HCN | | | 15:06 | | | | | | | | X | | | | | | 1 TUBE |
| 62481 | - Amines | | | 15:29 | | | | | | | | | X | | | | | 1 TUBE |
| 62482 | - Mercury | | | 15:18 | | | | | | | | | | | | X | | 1 TUBE |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | Date: 4/17/13 | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: 4/17/13 | Time: 0940 |

SOIL / WATER / AIR PROTECTION ENTERPRISE

AAC# 130456

## CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

*Bridgeton Sanitary Landfill Air Quality Assessment*

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 4/17/13 Page 1 of 1

Project Manager: PAUL ROSENFELD, PH.D.

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By: | Sampler Signature:

| LAB ID | SAMPLE ID NUMBER | Type | Date | Time | VOCS - EPA TO-15 | Reduced Sulfur Compounds - ASTM D5504 | Carbonyls - EPA TO-11A | Carboxlyic Acids - Tube GC-MS | HCL - NIOSH 7903 | Ammonia - OSHA ID-188 | SO2 - OSHA ID-200 | HCN - NIOSH 6010 | Amines - NIOSH 2010M | Fixed Gases - EPA 3C | PAHs / Dioxins EPA TO-13A / 9A | Mercury - NIOSH 6009 | Odor Evaluation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62486 | ALDEHYDES | | 4/17/13 | | | | X | | | | | | | | | | |
| 62487 | AMINES | | | | | | | | | | | | X | | | | |
| 62488 | AMMONIA | | | | | | | | | X | | | | | | | |
| 62489 | CARBOXYLIC ACIDS | | | | | | | X | | | | | | | | | |
| 62490 | HYDROGEN CHLORIDE | | | | | | | | X | | | | | | | | |
| 62491 | HYDROGEN CYANIDE | | | | | | | | | | | X | | | | | |
| 62492 | MERCURY | | | | | | | | | | | | | | | X | |
| 62493 | SULFUR DIOXIDE | | " | | | | | | | | X | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

**Special Instructions / Conditions of Receipt**

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: John Black | Date: 4/17/13 | Time: 4 PM | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: 4/18/13 | Time: 1235 |

- FEDEX

*SOIL / WATER / AIR PROTECTION ENTERPRISE*

# Amines Sample Preparation Logbook

Client: SWAPE / Horizon Env
Analyst: CG

AAC Project #: 130436/130478
Date Received:
Date Derivatized: 05/03/2013

| NITC Solution | | | |
|---|---|---|---|
| NITC Lot # | | Mass NITC Used | .15grams |
| IPA Lot # | | Volume IPA Used | 50mL |

| Sample ID | Initial pH | Initial Sample Vol (mL) | Vol NaOH Added (µL) | Time NaOH Added | Final pH | Volume of Alkalified Sample Transferred (mL) | Volume NITC Added to Alkalified Sample (mL) | Time NITC Added & Sample Put in Heat | Time Sample Removed from Heat |
|---|---|---|---|---|---|---|---|---|---|
| MB | 1 | 3 | 146 | 07:43 | 16 | 2 | 2 | 08:05 | 09:05 |
| MB 2 | 1 | 3 | 146 | 07:45 | 16 | 2 | 2 | | |
| CCV 5.0 | 1 | 3 | 136 | 07:47 | 16 | 2 | 2 | | |
| LCS 2.5 | 1 | 3 | 136 | 07:49 | 10 | 2 | 2 | | |
| LCSD 2.5 | 1 | 3 | 126 | 07:51 | 10 | 2 | 2 | | |
| MS 2.5 | 1 | 3 | 146 | 07:52 | 10 | 2 | 2 | | |
| MSD 2.5 | 1 | 3 | 148 | 07:54 | 16 | 2 | 2 | | |
| 130436-62487 | 1 | 3 | 126 | 07:55 | 10 | 2 | 2 | | |
| 130436-62454 | 1 | 3 | 120 | 07:56 | 10 | 2 | 2 | | |
| CCV 5.0 | 1 | 3 | 140 | 07:57 | 10 | 2 | 2 | | |
| 130436-62463 | 1 | 3 | 140 | 09:20 | 16 | 2 | 2 | 09:45 | 10:45 |
| 130436-62472 | 1 | 3 | 136 | 09:22 | 10 | 2 | 2 | | |
| 130436-62481 | 1 | 3 | 140 | 09:23 | 10 | 2 | 2 | | |
| 130478-62559 | 1 | 3 | 130 | 09:24 | 10 | 2 | 2 | | |
| 130478-62558 | 1 | 3 | 130 | 09:25 | 10 | 2 | 2 | | |
| 130478-62555 | 1 | 3 | 146 | 09:27 | 10 | 2 | 2 | | |
| 130478-62557 | 1 | 3 | 130 | 09:29 | 10 | 2 | 2 | | |
| CCV 5.0 | 1 | 3 | 140 | 09:30 | 10 | 2 | 2 | | |
| 130478-62551 | 9 | 3 | 0 | — | 9 | 2 | 2 | | |
| 130478-62552 | 9 | 3 | 0 | — | 9 | 2 | 2 | | |
| 130478-62553 | 9 | 3 | 0 | — | 9 | 2 | 2 | | |
| 130478-62554 | 9 | 3 | 6 | — | 9 | 2 | 2 | | |
| 130478-62556 | 9 | 3 | 6 | — | 9 | 2 | 2 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| NITC=.3g/100mL IPA | | | | | | | | | |
| wait 10 min after adding NaOH to add NITC | | | | | | | | | |
| Water bath=50C for 60 minutes | | | | | | | | | |
| | | | | | | | | | |

# Results

# Atmospheric Analysis & Consulting, Inc.

*LABORATORY ANALYSIS REPORT*

Client : SWAPE
Client Project Name : Bridgetown Sanitary Landfill Air Quality Assessment
AAC Project No. : 130456
Analyst : EG
Units : ug/sample

Sampling Date : 04/16/2013
Receiving Date : 04/17/2013
Analysis Date : 05/03/2013
Reporting Date : 05/06/2013

**Analysis of Amines by NIOSH Method 2010M**

| *Client Sample ID* | *AAC Sample ID* | *Sample Volume* | *Ethanolamine* | *Diethanolamine* | *Methylamine* | *Dimethylamine* | *Ethylamine* | *Isopropylamine / Propylamine* | *Diethylamine* | *Ethylenedi-amine* | *Isobutylamine* | *Butylamine* | *Cyclohexyl-amine* | *Diethylenetri-amine* | *Ethylhexyl-amine* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BZ-1-Amines | 130436-62454 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| F-1-Amines | 130436-62463 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| F-2-Amines | 130436-62472 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| F-3-Amines | 130436-62481 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| Blank Amines | 130436-62487 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |

<SRL-compound was analyzed for but not detected at or above the Sample Reporting Limit (SRL)

Marcus Hueppe
Laboratory Director

# Atmospheric Analysis & Consulting, Inc.

*LABORATORY ANALYSIS REPORT*

Client : SWAPE
Client Project Name : Bridgetown Sanitary Landfill Air Quality Assessment
AAC Project No. : 130456
Analyst : EG
Units : ug/m$^3$

Sampling Date : 04/16/2013
Receiving Date : 04/17/2013
Analysis Date : 05/03/2013
Reporting Date : 05/06/2013

**Analysis of Amines by NIOSH Method 2010M**

| *Client Sample ID* | *AAC Sample ID* | *Sample Volume* | *Ethanolamine* | *Diethanolamine* | *Methylamine* | *Dimethylamine* | *Ethylamine* | *Isopropylamine / Propylamine* | *Diethylamine* | *Ethylenedi-amine* | *Isobutylamine* | *Butylamine* | *Cyclohexyl-amine* | *Diethylenetri-amine* | *Ethylhexyl-amine* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BZ-1-Amines | 130436-62454 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 | 16.4 |
| F-1-Amines | 130436-62463 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 | 485 |
| F-2-Amines | 130436-62472 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 | 417 |
| F-3-Amines | 130436-62481 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 |
| Blank Amines | 130436-62487 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |

<SRL-compound was analyzed for but not detected at or above the Sample Reporting Limit (SRL)

Marcus Hueppe
Laboratory Director

# Atmospheric Analysis & Consulting, Inc.

*LABORATORY ANALYSIS REPORT*

nt : SWAPE
nt Project Name : Bridgetown Sanitary Landfill Air Quality Assessment
Project No. : 130456
lyst : EG
s : ppbv

Sampling Date : 04/16/2013
Receiving Date : 04/17/2013
Analysis Date : 05/03/2013
Reporting Date : 05/06/2013

**Analysis of Amines by NIOSH Method 2010M**

| *Client Sample ID* | *AAC Sample ID* | *Sample Volume* | *Ethanolamine* | *Diethanolamine* | *Methylamine* | *Dimethylamine* | *Ethylamine* | *Isopropylamine / Propylamine* | *Diethylamine* | *Ethylenedi-amine* | *Isobutylamine* | *Butylamine* | *Cyclohexyl-amine* | *Diethylenetri-amine* | *Ethylhexyl-amine* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BZ-1-Amines | 130436-62454 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 6.56 | 3.81 | 12.9 | 8.89 | 8.89 | 6.79 | 5.48 | 6.67 | 5.48 | 5.48 | 4.04 | 3.89 | 3.10 |
| F-1-Amines | 130436-62463 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 194 | 113 | 382 | 263 | 263 | 201 | 162 | 197 | 162 | 162 | 120 | 115 | 92 |
| F-2-Amines | 130436-62472 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 167 | 97 | 328 | 226 | 226 | 173 | 139 | 170 | 139 | 139 | 103 | 99 | 79 |
| F-3-Amines | 130436-62481 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 196 | 114 | 385 | 266 | 266 | 203 | 164 | 199 | 164 | 164 | 121 | 116 | 93 |
| Blank Amines | 130436-62487 | 10 | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL | <SRL |
| SRL | | 10 | 200 | 116 | 393 | 271 | 271 | 207 | 167 | 203 | 167 | 167 | 123 | 118 | 94.5 |

L-compound was analyzed for but not detected at or above the Sample Reporting Limit (SRL)

Marcus Hueppe
Laboratory Director

# QA/QC Summary

# Atmospheric Analysis & Consulting, Inc.

***Quality Control/Quality Assurance Report***
**AAC HPLC Amines Method**
*HPLC Calibration Verification of the 10/11/2012 Calibration*

Analysis Date : 05/03/2013
Analyst : EG

Instrument ID : HPLC 02

Opening CCV

| *Theoretical Concentration (ug/mL)* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | 4.68 | 4.36 | 5.00 | 5.29 | 5.35 | 10.15 | 5.78 | 5.06 | 5.79 | 4.60 | 4.64 | 5.17 | 5.16 |
| Accuracy (%)* | 93.6 | 87.3 | 100 | 106 | 107 | 102 | 116 | 101 | 116 | 92.0 | 92.9 | 103 | 103 |

Continuing CCV

| *Theoretical Concentration (ug/mL)* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | 4.65 | 4.60 | 4.98 | 5.13 | 5.30 | 10.60 | 5.61 | 5.21 | 5.51 | 4.59 | 4.58 | 5.16 | 5.06 |
| Accuracy (%)* | 93.0 | 92.0 | 99.6 | 103 | 106 | 106 | 112 | 104 | 110 | 91.8 | 91.7 | 103 | 101 |

Continuing CCV

| *Theoretical Concentration (ug/mL)* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | 4.69 | 5.01 | 5.05 | 5.42 | 5.17 | 10.98 | 5.62 | 5.19 | 5.54 | 4.41 | 5.03 | 5.28 | 4.97 |
| Accuracy (%)* | 93.8 | 100 | 101 | 108 | 103 | 110 | 112 | 104 | 111 | 88.1 | 101 | 106 | 99.4 |

Closing CCV

| *Theoretical Concentration (ug/mL)* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | 5.09 | 5.22 | 4.80 | 4.88 | 4.95 | 11.18 | 5.64 | 5.24 | 5.43 | 4.36 | 5.06 | 5.34 | 4.74 |
| Accuracy (%)* | 102 | 104 | 96.0 | 97.6 | 98.9 | 112 | 113 | 105 | 109 | 87.1 | 101 | 107 | 94.9 |

Second Source

| *Theoretical Concentration (ug/mL)* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.00** | 4.84 | 4.49 | 5.07 | 5.19 | 5.25 | 10.58 | 5.53 | 5.12 | 5.65 | 4.69 | 4.91 | 5.13 | 5.02 |
| **Accuracy (%)*** | 96.9 | 89.7 | 101 | 104 | 105 | 106 | 111 | 102 | 113 | 93.9 | 98.1 | 103 | 100 |

*Must be 100 ± 30%

Marcus Hueppe
Laboratory Director

*Quality Control/Quality Assurance Report*
**AAC HPLC Amines Method**
*Laboratory Control Spike Analysis*

Analysis Date : 05/03/2013
Analyst : EG

Instrument ID : HPLC 02

**Laboratory Control Spike 1**

| *Analytes* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Concentration (ug/mL) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Spike Concentration (ug/mL) | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 5.00 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| Spiked Sample Concentration (ug/mL) | 2.29 | 2.40 | 2.25 | 2.35 | 2.83 | 5.40 | 2.20 | 2.90 | 2.63 | 2.02 | 2.32 | 2.92 | 2.51 |
| Duplicate Spiked Sample Concentration (ug/mL) | 2.45 | 2.03 | 2.69 | 2.74 | 2.56 | 5.71 | 3.17 | 3.24 | 2.97 | 2.16 | 2.13 | 3.06 | 2.37 |
| Spike Recovery (%)* | 91.7 | 96.2 | 90.1 | 93.9 | 113 | 108 | 88.2 | 116 | 105 | 80.7 | 92.9 | 117 | 100 |
| Dulicate Spike Recovery (%)* | 98.0 | 81.2 | 108 | 109 | 102 | 114 | 127 | 129 | 119 | 86.5 | 85.0 | 123 | 95.0 |
| RPD** | 6.7 | 16.9 | 17.9 | 15.3 | 10.1 | 5.5 | 35.9 | 10.9 | 12.2 | 6.9 | 8.9 | 2.4 | 5.4 |

*Must be 100 ± 30%
** Must be ≤ 25%

Marcus Hueppe
Laboratory Director

*Quality Control/Quality Assurance Report*
**AAC HPLC Amines Method**
*Matrix Spike Analysis*

Analysis Date : 05/03/2013
Analyst : EG

Instrument ID : HPLC 02

**Matrix Spike 120864-58422**

| *Analytes* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Concentration (ug/mL) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Spike Concentration (ug/mL) | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 5.00 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 | 2.50 |
| Spiked Sample Concentration (ug/mL) | 2.41 | 1.94 | 2.71 | 2.87 | 2.27 | 5.21 | 2.89 | 2.88 | 3.01 | 2.30 | 2.42 | 2.85 | 2.47 |
| Duplicate Spiked Sample Concentration (ug/mL) | 2.31 | 1.95 | 2.66 | 2.74 | 2.12 | 5.49 | 2.71 | 3.08 | 2.85 | 2.20 | 2.10 | 2.81 | 2.26 |
| Spike Recovery (%)* | 96.6 | 77.5 | 109 | 115 | 90.8 | 104 | 116 | 115 | 120 | 92.0 | 97.0 | 114 | 98.8 |
| Dulicate Spike Recovery (%)* | 92.3 | 78.1 | 106 | 110 | 84.7 | 110 | 108 | 123 | 114 | 87.8 | 83.9 | 112 | 90.2 |
| RPD** | 4.5 | 0.8 | 2.0 | 4.7 | 6.9 | 5.2 | 6.5 | 6.7 | 5.6 | 4.6 | 14.4 | 1.3 | 9.1 |

*Must be 100± 30%
** Must be≤ 25%

Marcus Hueppe
Laboratory Director

***Quality Control/Quality Assurance Report***
**AAC HPLC Amines Method**
*Duplicate Analysis*

Analysis Date : 05/03/2013
Analyst : EG

Instrument ID : HPLC 02

Sample ID

| *Analyte* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine/ Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | 130436-62487 | | | | | | | | | | | | |
| Sample Concentration (ug/mL) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Duplicate Sample Concentration (ug/mL) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| RPD** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sample ID | 130436-62463 | | | | | | | | | | | | |
| Sample Concentration (ug/mL) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Duplicate Sample Concentration (ug/mL) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| RPD** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sample ID | 130478-62551 | | | | | | | | | | | | |
| Sample Concentration (ug/mL) | ND | ND | 3.68 | 22.0 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Duplicate Sample Concentration (ug/mL) | ND | ND | 3.80 | 22.2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| RPD** | NA | NA | 3.3 | 1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA |

** Must be ≤ 25%

Marcus Hueppe
Laboratory Director

***Quality Control/Quality Assurance Report***
**AAC HPLC Amines Method**
*System and Method Blank Analysis*

Analysis Date : 05/03/2013
Analyst : EG

Instrument ID : HPLC 02

| *Sample ID* | *Ethanolamine Concentration (ug/mL)* | *Diethanolamine Concentration (ug/mL)* | *Methylamine Concentration (ug/mL)* | *Dimethylamine Concentration (ug/mL)* | *Ethylamine Concentration (ug/mL)* | *Isopropylamine / Propylamine Concentration (ug/mL)* | *Diethylamine Concentration (ug/mL)* | *Ethylenediamine Concentration (ug/mL)* | *Isobutylamine Concentration (ug/mL)* | *Butylamine Concentration (ug/mL)* | *Cyclohexylamine Concentration (ug/mL)* | *Diethylenetriamine Concentration (ug/mL)* | *Ethylhexylamine Concentration (ug/mL)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Opening 2-Propanol Blank | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Method Blank 1 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Closing 2-Propanol Blank | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Sample Reporting Limit (ug/mL) | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 |

ND - Not Detected
SRL - Sample Reporting Limit

Marcus Hueppe
Laboratory Director

# Calibration Summary

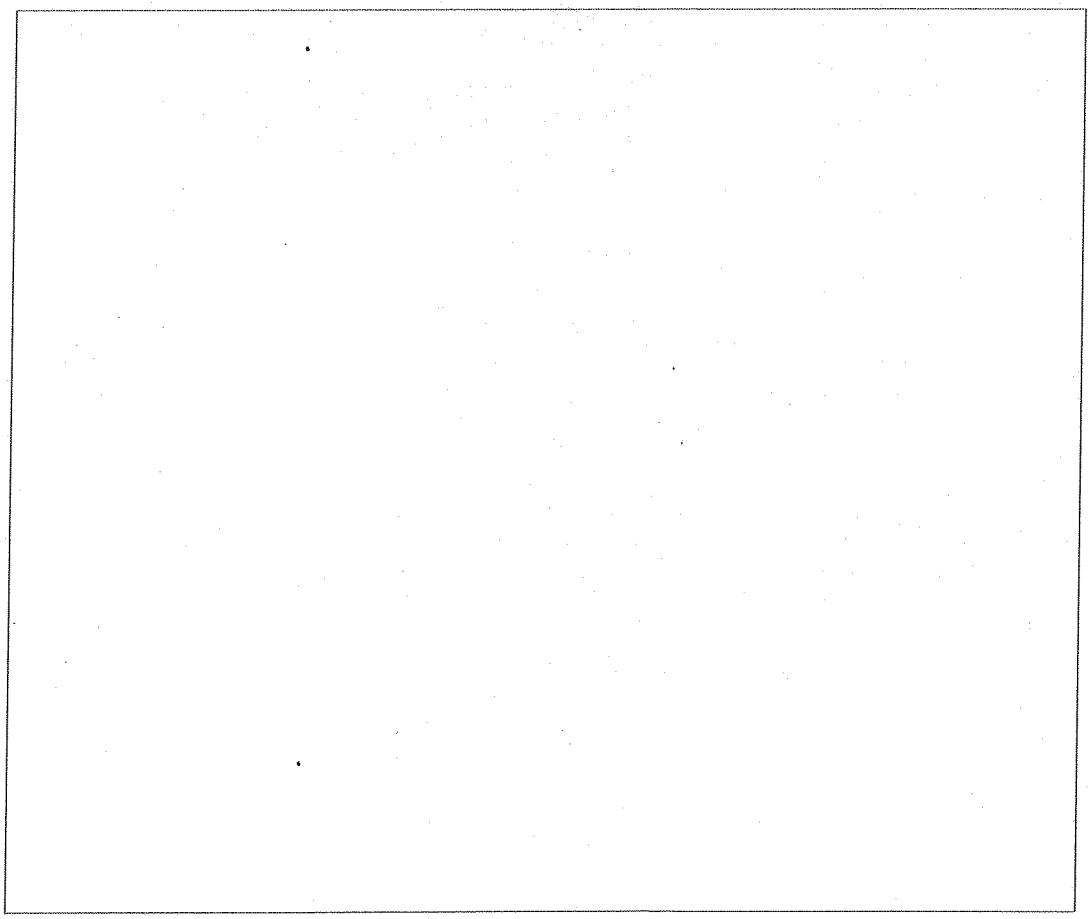
File Name: C:\Chromperfect #2\CP Methods & Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Version: 49

Creator: EG
Description: Amines

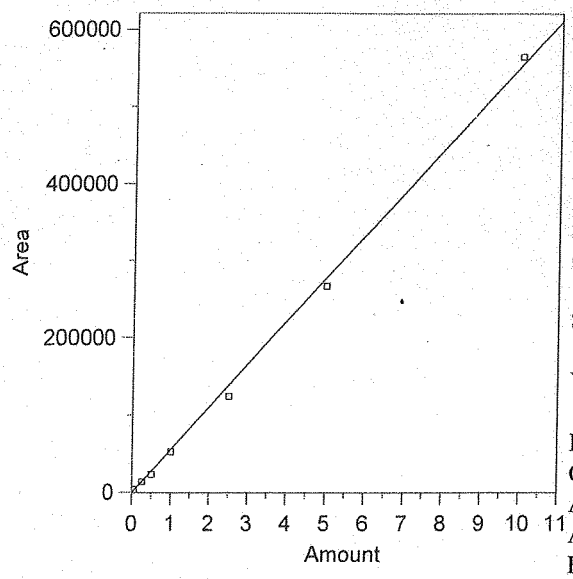
Internal standard calibration
No injection volume correction
No sample weight correction
Area reject threshold: 300
Reference peak area reject threshold: 300
Amount units:
No default component

Method of calculating data point averages: Equal weight for all updates
No calibration update report

All levels are normal data points.



1 Ethanolamine




| | |
|---|---|
| Expected retention time: | 9.396 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

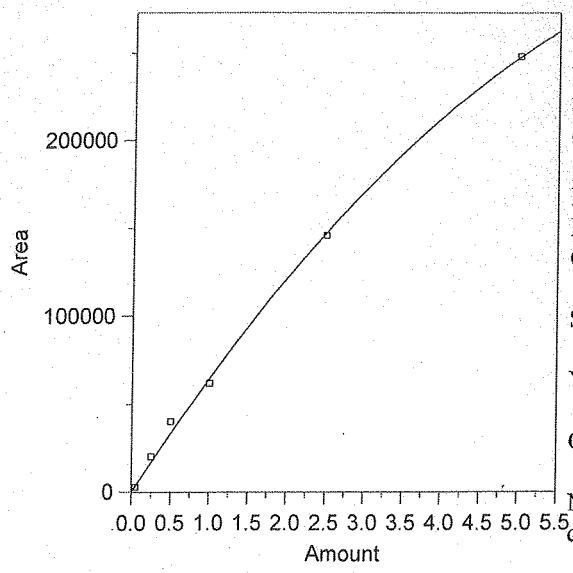
$Y = 55525.05 X + 0$

Linear fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9981815 |
| Average error: | 10.601% |
| Average CF: | 55590.75 |
| RSD: | 16.815% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3769.542 | 75390.84 | 35.778 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 13801.22 | 55204.88 | -0.577 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 23283.27 | 46566.54 | -16.134 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 52476.51 | 52476.51 | -5.490 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 124184 | 49673.6 | -10.538 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 266655.3 | 53331.06 | -3.951 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 564918.5 | 56491.85 | 1.741 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

2 Diethanolamine




| | |
|---|---|
| Expected retention time: | 9.979 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

$Y = -3724.51 X^2 + 68193.94 X + 0$

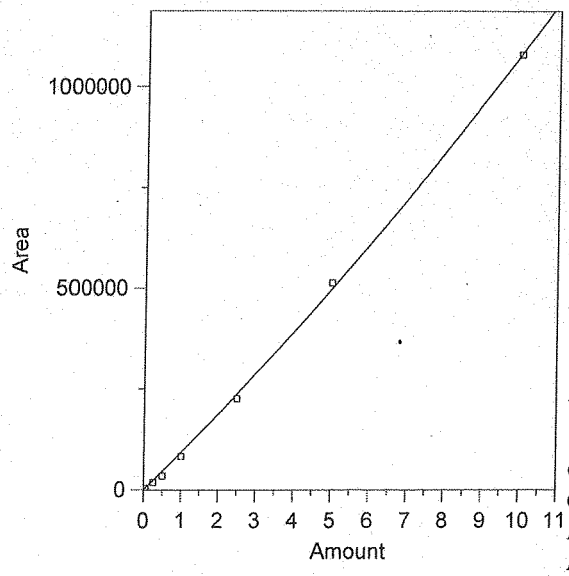
Quadratic fit with equal weighting, forced to origin

NOTE: This curve has a maximum that limits the quantitation range

| | |
|---|---|
| Critical amount: | 9.154754 |
| Critical response: | 312149.3 |
| Coeffi ient of determination: | 0.9984155 |
| Averag e error: | 11.303% |
| Average CF: | 64021.72 |
| RSD: | 20.959% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 2670.144 | 53402.88 | -21.475 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 20200.66 | 80802.64 | 20.130 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 40099.8 | 80199.6 | 20.907 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 61742.76 | 61742.76 | -4.229 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 145841.3 | 58336.52 | -0.928 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 248229.6 | 49645.92 | 0.150 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | (10) | (349198.4) | -- | -- | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

3 Methylamine




| | |
|---|---|
| Expected retention time: | 12.568 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

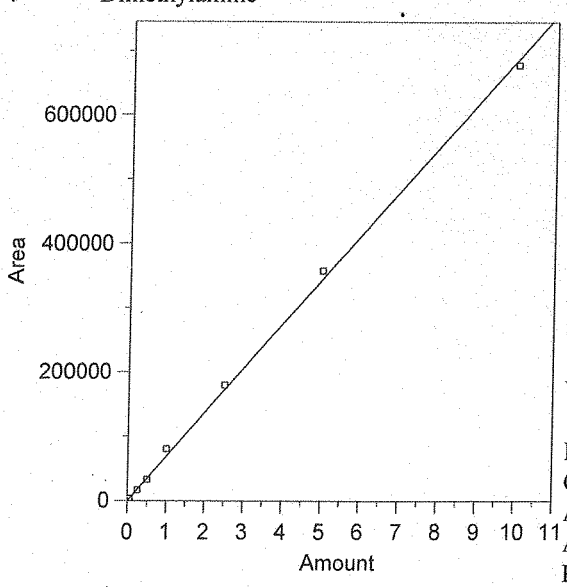
$Y = 1764.458 X^2 + 90664.45 X + 0$

Quadratic fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9993287 |
| Average error: | 11.016% |
| Average CF: | 86252.18 |
| RSD: | 17.236% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3956.498 | 79129.96 | -12.807 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 18367.39 | 73469.56 | -19.358 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 33862.61 | 67725.22 | -26.021 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 82536.77 | 82536.77 | -10.702 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 225966.1 | 90386.44 | -4.932 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 512491.4 | 102498.3 | 3.027 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 1080190 | 108019 | -0.268 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

4 Dimethylamine




| | |
|---|---|
| Expected retention time: | 12.94 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

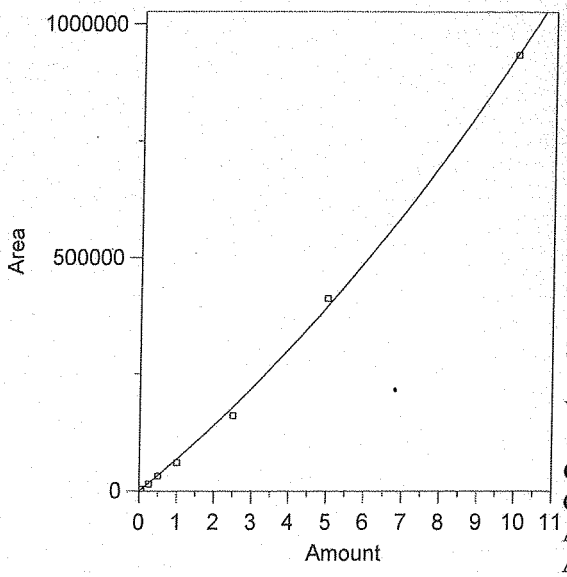
$Y = 68785.79 X + 0$

Linear fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9987172 |
| Average error: | 6.060% |
| Average CF: | 71253.19 |
| RSD: | 7.209% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3728.275 | 74565.5 | 8.402 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 16625.24 | 66500.96 | -3.322 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 33043.36 | 66086.72 | -3.924 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 80521.71 | 80521.71 | 17.062 | C:\Chromperfect #2\ 'P Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 179521.1 | 71808.44 | 4.394 | C:\Chromperfect #2\ 'P Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 357366.6 | 71473.32 | 3.907 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 678156.6 | 67815.66 | -1.410 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

5 Ethylamine




| | |
|---|---|
| Expected retention time: | 14.548 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

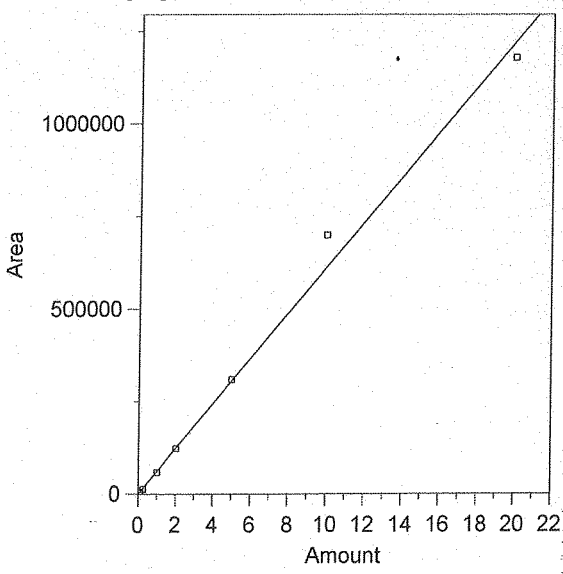
$Y = 2939.672 X^2 + 64194.88 X + 0$

Quadratic fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9989738 |
| Average error: | 7.035% |
| Average CF: | 69969.75 |
| RSD: | 18.709% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3477.403 | 69548.06 | 8.091 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 14526.39 | 58105.56 | -10.510 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 31279.46 | 62558.92 | -4.730 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 59954.02 | 59954.02 | -10.696 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 160014.1 | 64005.64 | -10.537 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 411641.9 | 82328.38 | 4.354 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 932876.8 | 93287.68 | -0.325 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

6 Isopropylamine / n-Propylamine




| | |
|---|---|
| Expected retention time: | 16.39 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

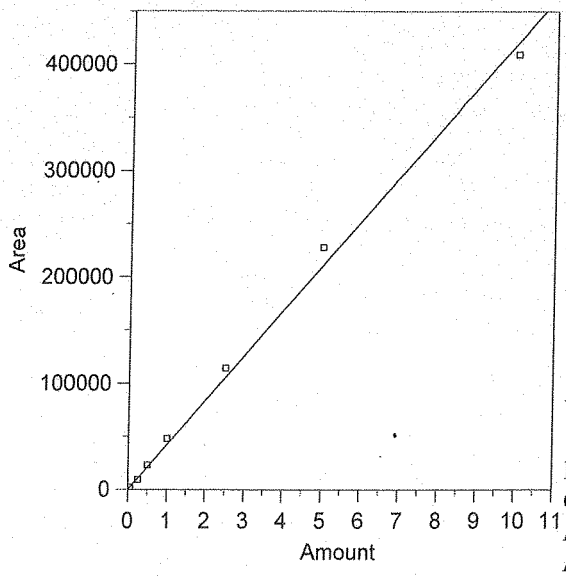
$Y = 61137.56 X + 0$

Linear fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9918525 |
| Average error: | 6.219% |
| Average CF: | 60021.84 |
| RSD: | 8.559% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.1 | 5775.909 | 57759.09 | -5.526 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 13276.16 | 53104.64 | -13.139 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 1 | 58092.02 | 58092.02 | -4.981 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 2 | 121183.4 | 60591.7 | -0.893 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 5 | 309049.8 | 61809.96 | 1.100 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 10 | 698681.8 | 69868.18 | 14.280 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 20 | 1178546 | 58927.3 | -3.615 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

7 Diethylamine




| | |
|---|---|
| Expected retention time: | 16.698 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

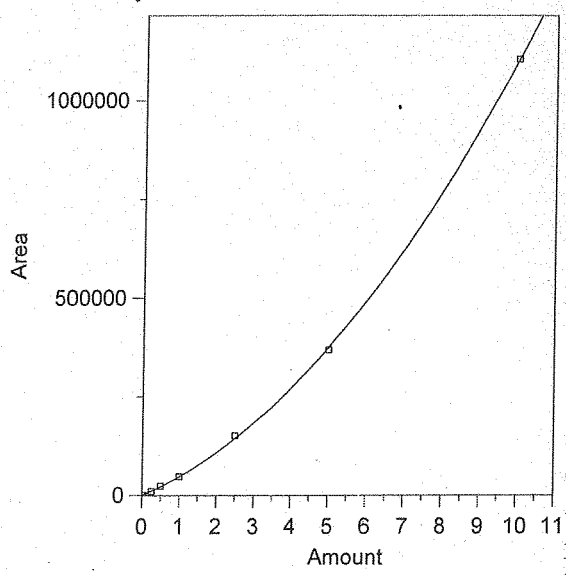
$Y = 42106.37 X + 0$

Linear fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9959358 |
| Average error: | 8.306% |
| Average CF: | 44033.39 |
| RSD: | 7.884% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 2228.348 | 44566.96 | 5.844 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 9441.565 | 37766.26 | -10.307 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 22895.29 | 45790.58 | 8.750 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 47922.4 | 47922.4 | 13.813 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 114125.6 | 45650.24 | 8.416 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 227936.8 | 45587.36 | 8.267 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 409499.1 | 40949.91 | -2.747 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

8 Ethylenediamine




| | |
|---|---|
| Expected retention time: | 17.63 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

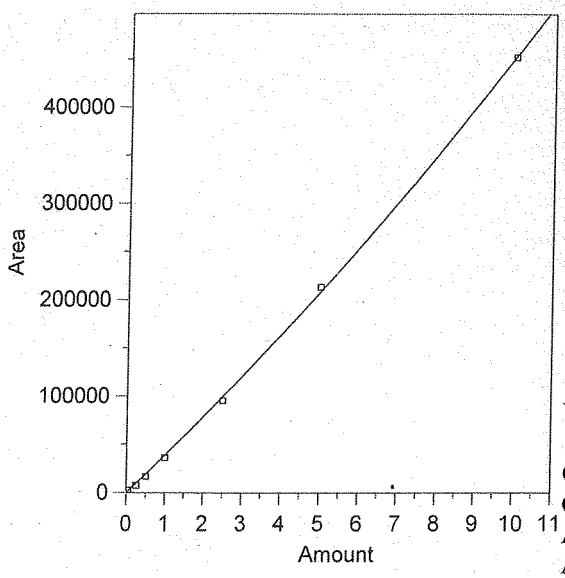
$Y = 7136.23 X^2 + 39073.26 X + 0$

Quadratic fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9999056 |
| Average error: | 17.530% |
| Average CF: | 53854.45 |
| RSD: | 62.722% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 0 | 0 | -100.000 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 9784.17 | 39136.68 | -4.211 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 23361.64 | 46723.28 | 9.573 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 47350.99 | 47350.99 | 2.470 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 149117.5 | 59647 | 4.802 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 367929.7 | 73585.94 | -1.563 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 1105373 | 110537.3 | 0.092 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

9 Isobutylamine




Expected retention time: 18.104 minutes
Search window: 0.5 minutes
No internal standard component
No retention time reference component
Group number: 0

High alarm limit: 0
Low alarm limit: 0
Component constant: 0

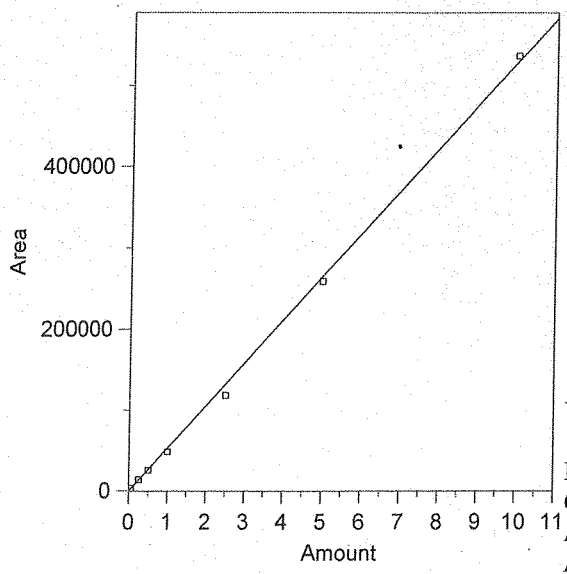
Single peak quantification by area

$Y = 744.5114 X^2 + 37872.74 X + 0$

Quadratic fit with equal weighting, forced to origin
Coefficient of determination: 0.999635
Average error: 9.205%
Average CF: 38299.33
RSD: 15.208%

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 2181.15 | 43623 | 15.070 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 7370.374 | 29481.5 | -22.537 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 16620.88 | 33241.76 | -13.082 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 35912.89 | 35912.89 | -7.003 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 95130.92 | 38052.37 | -4.232 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 212781.8 | 42556.36 | 2.310 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 452274.6 | 45227.46 | -0.199 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

10 Butlyamine




Expected retention time: 18.202 minutes
Search window: 0.5 minutes
No internal standard component
No ret ntion time reference component
Group number: 0

High alarm limit: 0
Low alarm limit: 0
Component constant: 0

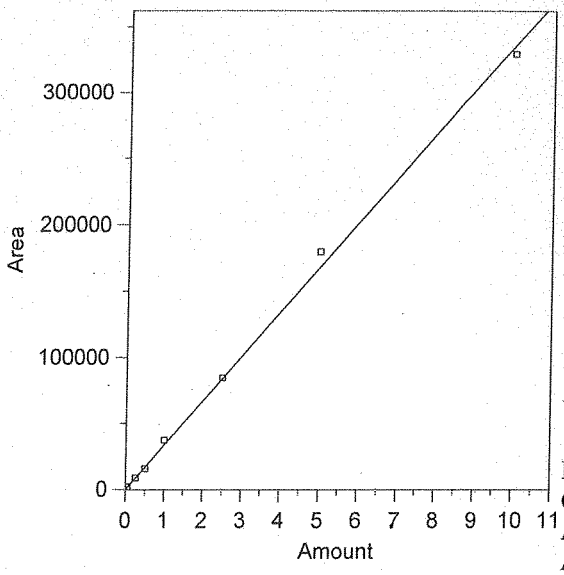
Single peak quantification by area

$Y = 52954.68 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.998718
Average error: 7.146%
Average CF: 52734.67
RSD: 9.749%

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3128.891 | 62577.82 | 18.172 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 13780.75 | 55123 | 4.095 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 25196.17 | 50392.34 | -4.839 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 48123.13 | 48123.13 | -9.124 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 118713.3 | 47485.32 | -10.328 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 259018.6 | 51803.72 | -2.173 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 536373.9 | 53637.39 | 1.289 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

11 Cyclohexylamine




| | |
|---|---|
| Expected retention time: | 20.138 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

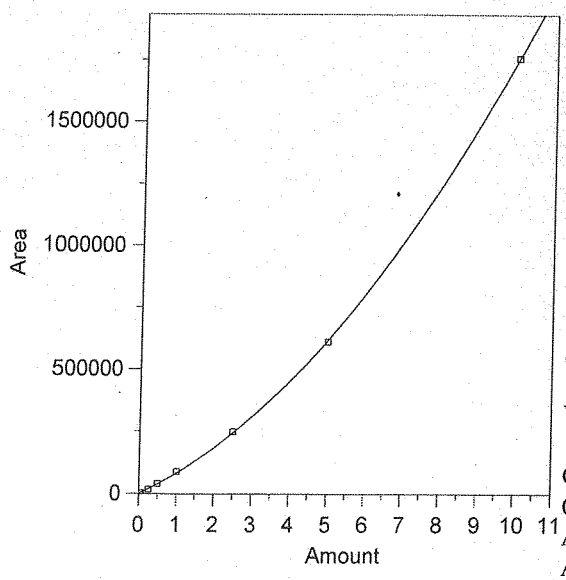
$Y = 33580.86 X + 0$

Linear fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.9977025 |
| Average error: | 7.399% |
| Average CF: | 35319.26 |
| RSD: | 8.211% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 2011.486 | 40229.72 | 19.800 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 8824.583 | 35298.33 | 5.114 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 15808.55 | 31617.1 | -5.848 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 37372.55 | 37372.55 | 11.291 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 84509.43 | 33803.77 | 0.664 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 179903 | 35980.6 | 7.146 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 329327.5 | 32932.75 | -1.930 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

12 Diethylenetriamine




| | |
|---|---|
| Expected retention time: | 21.877 minutes |
| Search window: | 0.5 minutes |
| No internal standard component | |
| No retention time reference component | |
| Group number: | 0 |
| High alarm limit: | 0 |
| Low alarm limit: | 0 |
| Component constant: | 0 |

Single peak quantification by area

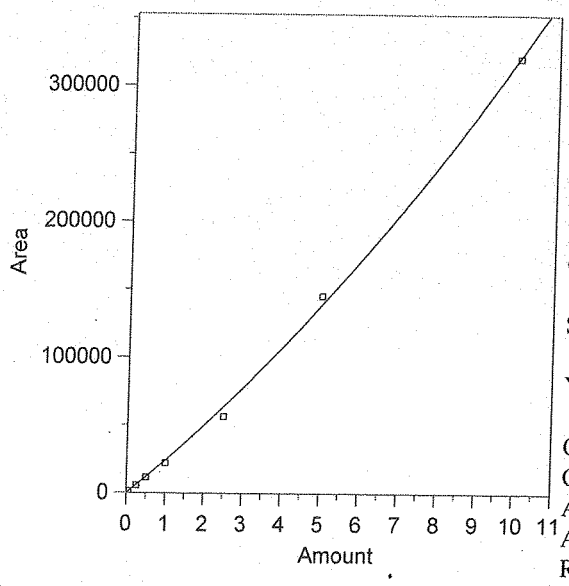
$Y = 10494.53 X^2 + 70701 X + 0$

Quadratic fit with equal weighting, forced to origin

| | |
|---|---|
| Coefficient of determination: | 0.999952 |
| Average error: | 4.403% |
| Average CF: | 99782.8 |
| RSD: | 38.712% |

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 3216.201 | 64324.02 | -9.690 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 17477.59 | 69910.36 | -4.656 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 39983.77 | 79967.54 | 5.292 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 87611.43 | 87611.43 | 7.902 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 247566.2 | 99026.48 | 2.155 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 609349.6 | 121869.9 | -1.058 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 1757698 | 175769.8 | 0.070 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

13 Ethylhexylamine




Expected retention time: 24.18 minutes
Search window: 0.5 minutes
No internal standard component
No retention time reference component
Group number: 0

High alarm limit: 0
Low alarm limit: 0
Component constant: 0

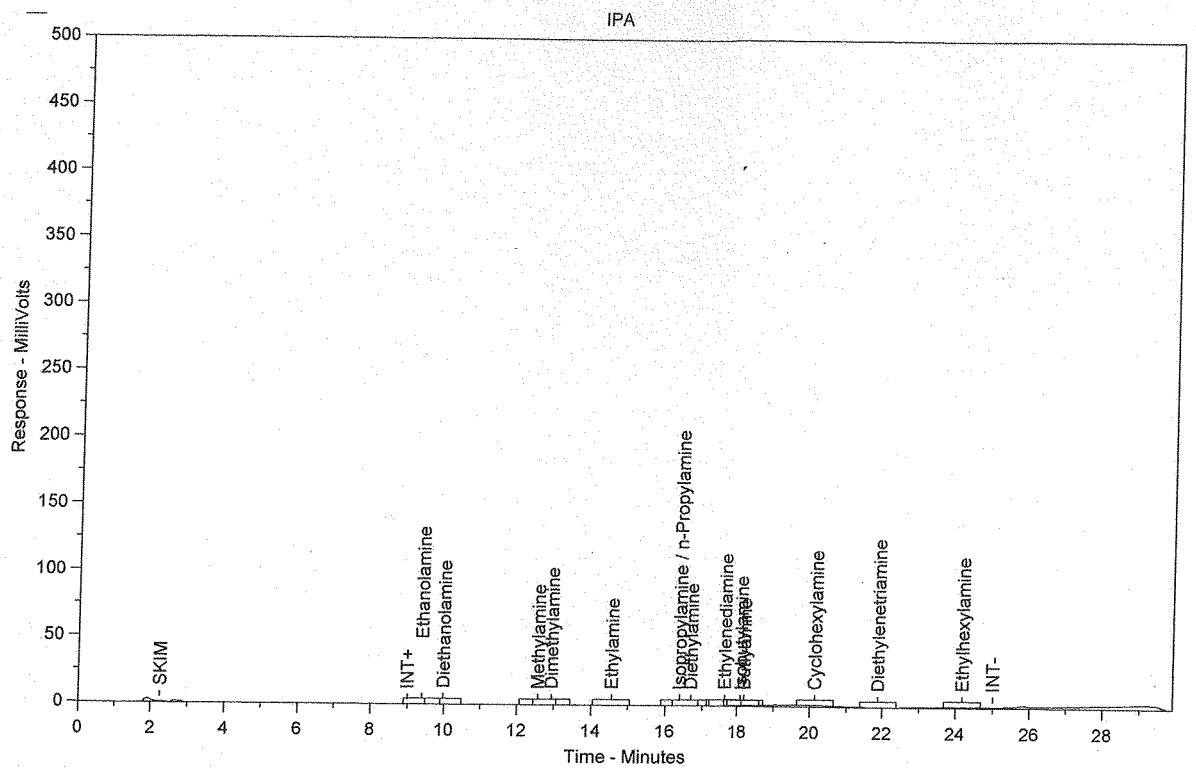
Single peak quantification by area

$Y = 894.5491 X^2 + 23239.63 X + 0$

Quadratic fit with equal weighting, forced to origin
Coefficient of determination: 0.9987028
Average error: 5.893%
Average CF: 24623.49
RSD: 16.894%

| Level | Amount | Response | Cal Factor | Error, % | Source | Date and time |
|---|---|---|---|---|---|---|
| 1 | 0.05 | 1131.082 | 22621.64 | -2.846 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0002.BND | 10/11/2012 3:36:24 PM |
| 2 | 0.25 | 5410.477 | 21641.91 | -7.763 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0003.BND | 10/11/2012 3:33:09 PM |
| 3 | 0.5 | 11322.29 | 22644.58 | -4.400 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0004.BND | 10/11/2012 3:31:50 PM |
| 4 | 1 | 21891.48 | 21891.48 | -9.293 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.0005.BND | 10/11/2012 3:30:33 PM |
| 5 | 2.5 | 56156.41 | 22462.56 | -11.829 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:12 PM |
| 6 | 5 | 145163.5 | 29032.7 | 4.764 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:20 PM |
| 7 | 10 | 320695.7 | 32069.57 | -0.359 | C:\Chromperfect #2\CP Data\HPLC-UV #2\2012\101112\101112.00 | 10/11/2012 1:19:27 PM |

# Raw Data




Sample Name = **IPA**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313test.0001.RAW**
Date Taken (end) = 5/3/2013 11:57:14 AM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 1
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0

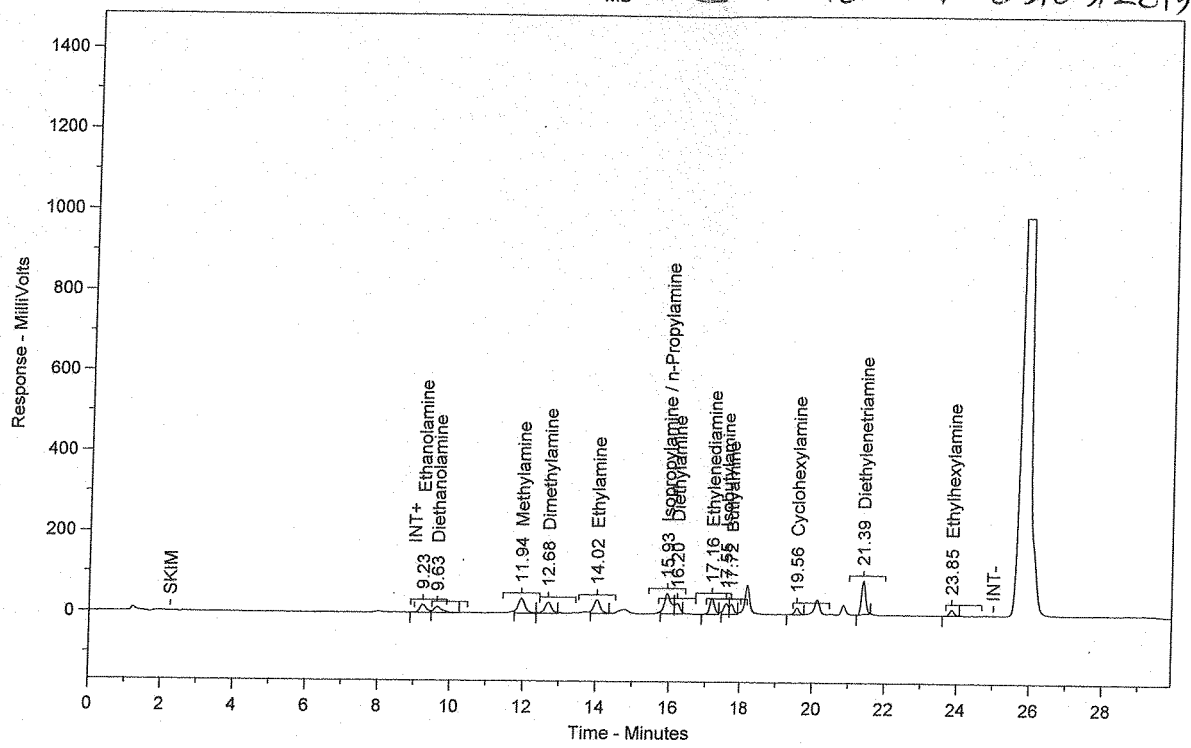
Total Height = 0

Total Amount = 0



CS
05/03/13

MB CCV 5.0 EG 05/03/2013




Sample Name = **MB**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313test.0002.RAW**
Date Taken (end) = 5/3/2013 12:28:32 PM

Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313test.0002.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313test.0002.BND
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 2
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.23 | Ethanolamine | 4.6813 | 6.590 | 259932 | 5.837 | SBB | 0.19 |
| 2 | 9.63 | Diethanolamine | 4.3642 | 6.143 | 226673 | 5.090 | TBB | 0.22 |
| 3 | 11.94 | Methylamine | 5.0027 | 7.042 | 497727 | 11.177 | BV | 0.20 |
| 4 | 12.68 | Dimethylamine | 5.2878 | 7.443 | 363725 | 8.168 | VB | 0.19 |
| 5 | 14.02 | Ethylamine | 5.3466 | 7.526 | 427257 | 9.594 | BB | 0.18 |
| 6 | 15.93 | Isopropylamine / n-Propylamine | 10.1522 | 14.290 | 620678 | 13.938 | BV | 0.18 |
| 7 | 16.20 | Diethylamine | 5.7809 | 8.137 | 243413 | 5.466 | VB | 0.16 |
| 8 | 17.16 | Ethylenediamine | 5.0615 | 7.125 | 380590 | 8.547 | BB | 0.14 |
| 9 | 17.55 | Isobutylamine | 5.7942 | 8.156 | 244438 | 5.489 | BV | 0.15 |
| 10 | 17.72 | Butlyamine | 4.6018 | 6.478 | 243689 | 5.472 | VB | 0.15 |
| 11 | 19.56 | Cyclohexylamine | 4.6431 | 6.536 | 155919 | 3.501 | BB | 0.14 |
| 12 | 21.39 | Diethylenetriamine | 5.1666 | 7.273 | 645425 | 14.494 | BB | 0.12 |
| 13 | 23.85 | Ethylhexylamine | 5.1585 | 7.261 | 143686 | 3.227 | BB | 0.14 |

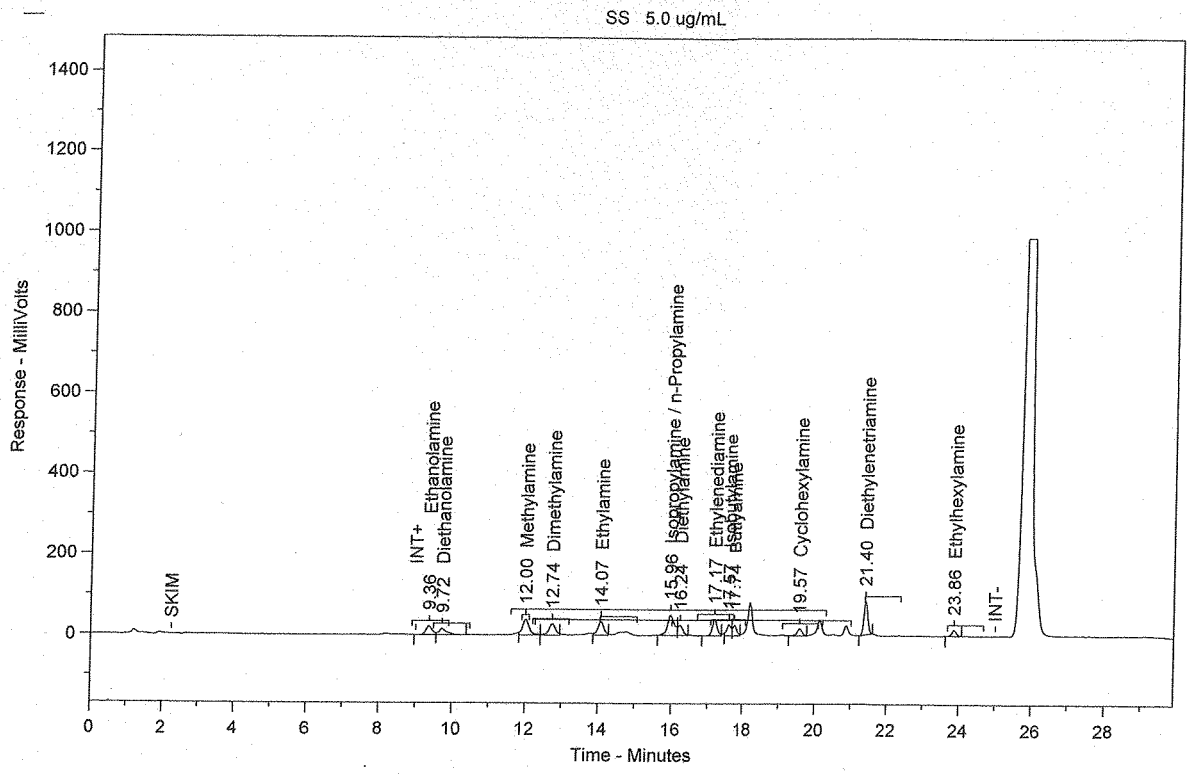
Total Area = 4453153

Total Height = 412940.4

Total Amount = 71.04144



EG 05/03/2013




Sample Name = **SS 5.0 ug/mL** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0003.RAW**
Date Taken (end) = 5/3/2013 1:03:23 PM

Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0003.BND
Method Description=AMINES

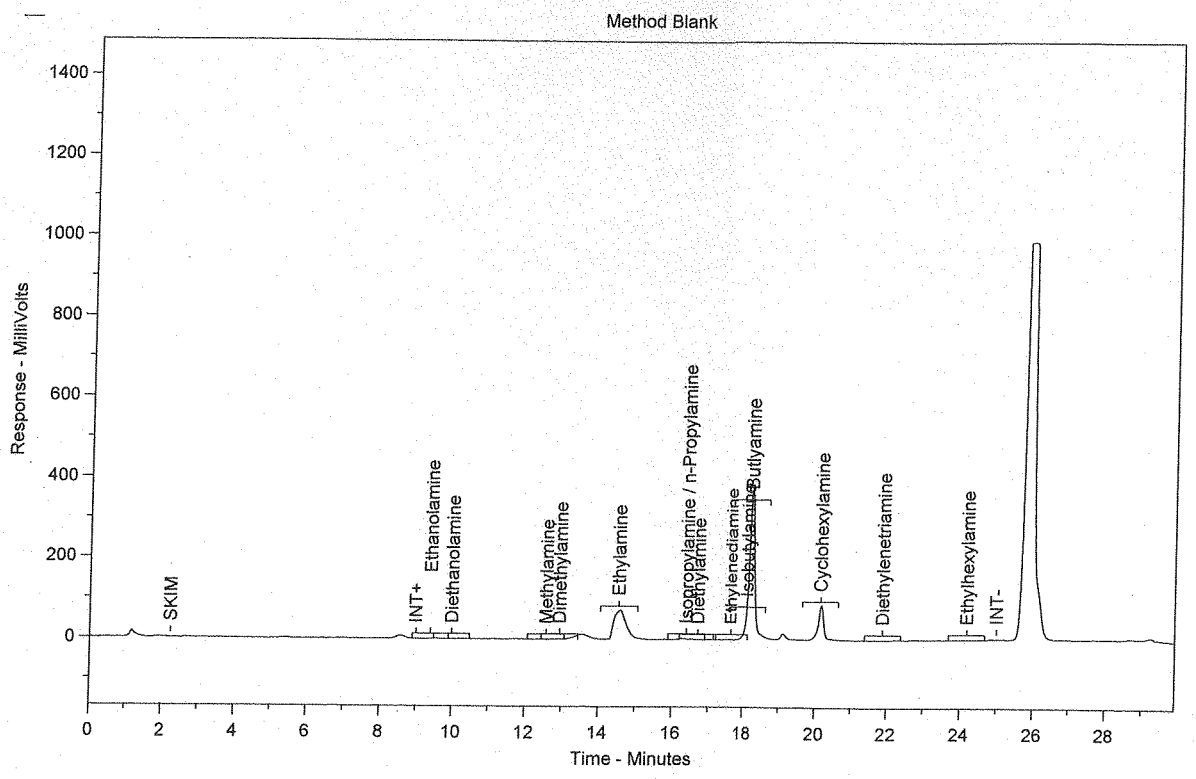
Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0003.BND
Concentration Units =

Run Time = 29.89889 Vial Number = 3
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.36 | Ethanolamine | 4.8444 | 6.778 | 268988 | 6.008 | SBB | 0.18 |
| 2 | 9.72 | Diethanolamine | 4.4869 | 6.278 | 230996 | 5.160 | TBB | 0.20 |
| 3 | 12.00 | Methylamine | 5.0743 | 7.100 | 505494 | 11.291 | BV | 0.19 |
| 4 | 12.74 | Dimethylamine | 5.1850 | 7.255 | 356657 | 7.967 | VB | 0.19 |
| 5 | 14.07 | Ethylamine | 5.2534 | 7.351 | 418370 | 9.345 | BB | 0.17 |
| 6 | 15.96 | Isopropylamine / n-Propylamine | 10.5774 | 14.800 | 646676 | 14.445 | BV | 0.20 |
| 7 | 16.24 | Diethylamine | 5.5303 | 7.738 | 232862 | 5.201 | VB | 0.16 |
| 8 | 17.17 | Ethylenediamine | 5.1241 | 7.170 | 387588 | 8.658 | BB | 0.14 |
| 9 | 17.57 | Isobutylamine | 5.6460 | 7.900 | 237561 | 5.306 | BV | 0.14 |
| 10 | 17.74 | Butlyamine | 4.6934 | 6.567 | 248539 | 5.552 | VB | 0.16 |
| 11 | 19.57 | Cyclohexylamine | 4.9055 | 6.864 | 164733 | 3.680 | BB | 0.14 |
| 12 | 21.40 | Diethylenetriamine | 5.1323 | 7.181 | 639287 | 14.280 | BB | 0.12 |
| 13 | 23.86 | Ethylhexylamine | 5.0167 | 7.019 | 139099 | 3.107 | BB | 0.14 |

Total Area = 4476850 Total Height = 418940.6 Total Amount = 71.46982


CC
05/03/2013




Sample Name = **Method Blank**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0004.RAW**
Date Taken (end) = 5/3/2013 1:34:41 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 4
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

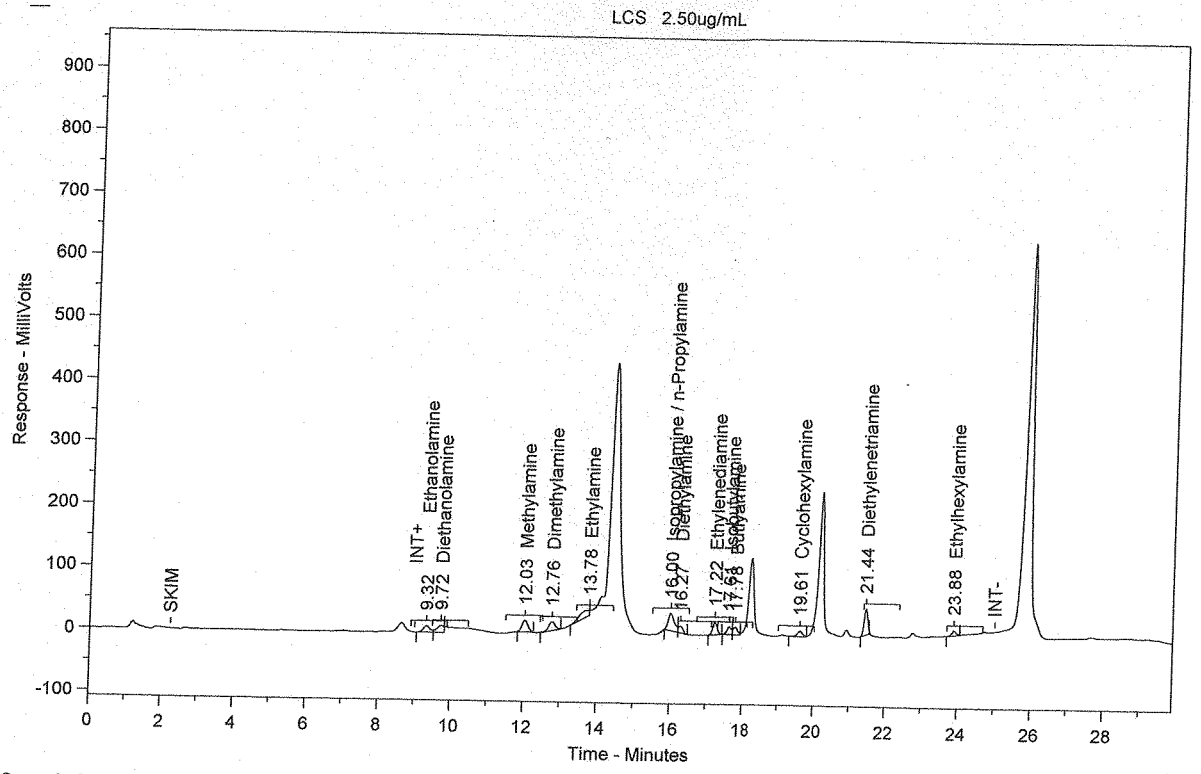
Total Area = 0

Total Height = 0

Total Amount = 0



CC
05/03/13




Sample Name = **LCS 2.50ug/mL**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0005.RAW**
Date Taken (end) = 5/3/2013 2:06:00 PM

Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0005.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0005.BND
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 5
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.32 | Ethanolamine | 2.2921 | 6.543 | 127271 | 6.074 | SBB | 0.20 |
| 2 | 9.72 | Diethanolamine | 2.4040 | 6.862 | 142413 | 6.796 | TBB | 0.19 |
| 3 | 12.03 | Methylamine | 2.2521 | 6.429 | 213138 | 10.171 | BB | 0.19 |
| 4 | 12.76 | Dimethylamine | 2.3466 | 6.699 | 161414 | 7.703 | BB | 0.23 |
| 5 | 13.78 | Ethylamine | 2.8313 | 8.082 | 205323 | 9.798 | BB | 0.32 |
| 6 | 16.00 | Isopropylamine / n-Propylamine | 5.4045 | 15.428 | 330417 | 15.768 | BV | 0.17 |
| 7 | 16.27 | Diethylamine | 2.2049 | 6.294 | 92839 | 4.430 | VB | 0.15 |
| 8 | 17.22 | Ethylenediamine | 2.9030 | 8.287 | 173571 | 8.283 | BB | 0.14 |
| 9 | 17.61 | Isobutylamine | 2.6257 | 7.495 | 104574 | 4.990 | BV | 0.15 |
| 10 | 17.78 | Butlyamine | 2.0182 | 5.761 | 106872 | 5.100 | VB | 0.15 |
| 11 | 19.61 | Cyclohexylamine | 2.3230 | 6.631 | 78008 | 3.723 | BB | 0.13 |
| 12 | 21.44 | Diethylenetriamine | 2.9185 | 8.331 | 295728 | 14.113 | BB | 0.12 |
| 13 | 23.88 | Ethylhexylamine | 2.5075 | 7.158 | 63897 | 3.049 | BB | 0.15 |

Total Area = 2095465

Total Height = 200648.2

Total Amount = 35.03138



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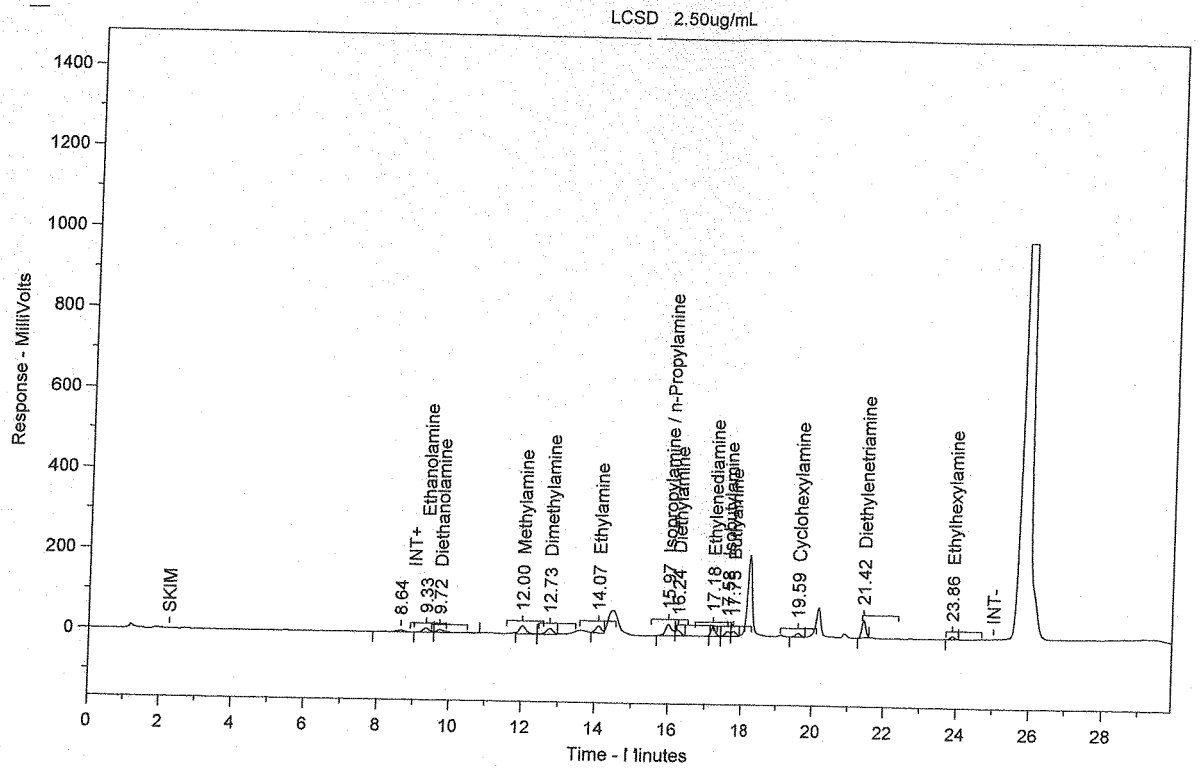
050313




Sample Name = **LCSD 2.50ug/mL**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0006.RAW**
Date Taken (end) = 5/3/2013 2:37:18 PM

Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0006.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0006.BND
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 6
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 8.64 | | 0.0000 | 0.000 | 84821 | 3.630 | SBB | 0.25 |
| 2 | 9.33 | Ethanolamine | 2.4502 | 6.572 | 136046 | 5.822 | TBV | 0.19 |
| 3 | 9.72 | Diethanolamine | 2.0298 | 5.445 | 123077 | 5.267 | TVB | 0.20 |
| 4 | 12.00 | Methylamine | 2.6947 | 7.228 | 257123 | 11.004 | BV | 0.19 |
| 5 | 12.73 | Dimethylamine | 2.7353 | 7.337 | 188151 | 8.052 | VB | 0.19 |
| 6 | 14.07 | Ethylamine | 2.5588 | 6.864 | 183510 | 7.853 | BB | 0.17 |
| 7 | 15.97 | Isopropylamine / n-Propylamine | 5.7094 | 15.315 | 349061 | 14.938 | BV | 0.20 |
| 8 | 16.24 | Diethylamine | 3.1712 | 8.507 | 133528 | 5.714 | VB | 0.17 |
| 9 | 17.18 | Ethylenediamine | 3.2365 | 8.682 | 201209 | 8.611 | BV | 0.13 |
| 10 | 17.58 | Isobutylamine | 2.9662 | 7.957 | 118889 | 5.088 | VV | 0.15 |
| 11 | 17.75 | Butlyamine | 2.1635 | 5.804 | 114570 | 4.903 | VB | 0.15 |
| 12 | 19.59 | Cyclohexylamine | 2.1254 | 5.701 | 71373 | 3.054 | BB | 0.13 |
| 13 | 21.42 | Diethylenetriamine | 3.0639 | 8.219 | 315133 | 13.486 | BB | 0.12 |
| 14 | 23.86 | Ethylhexylamine | 2.3745 | 6.369 | 60225 | 2.577 | BB | 0.13 |

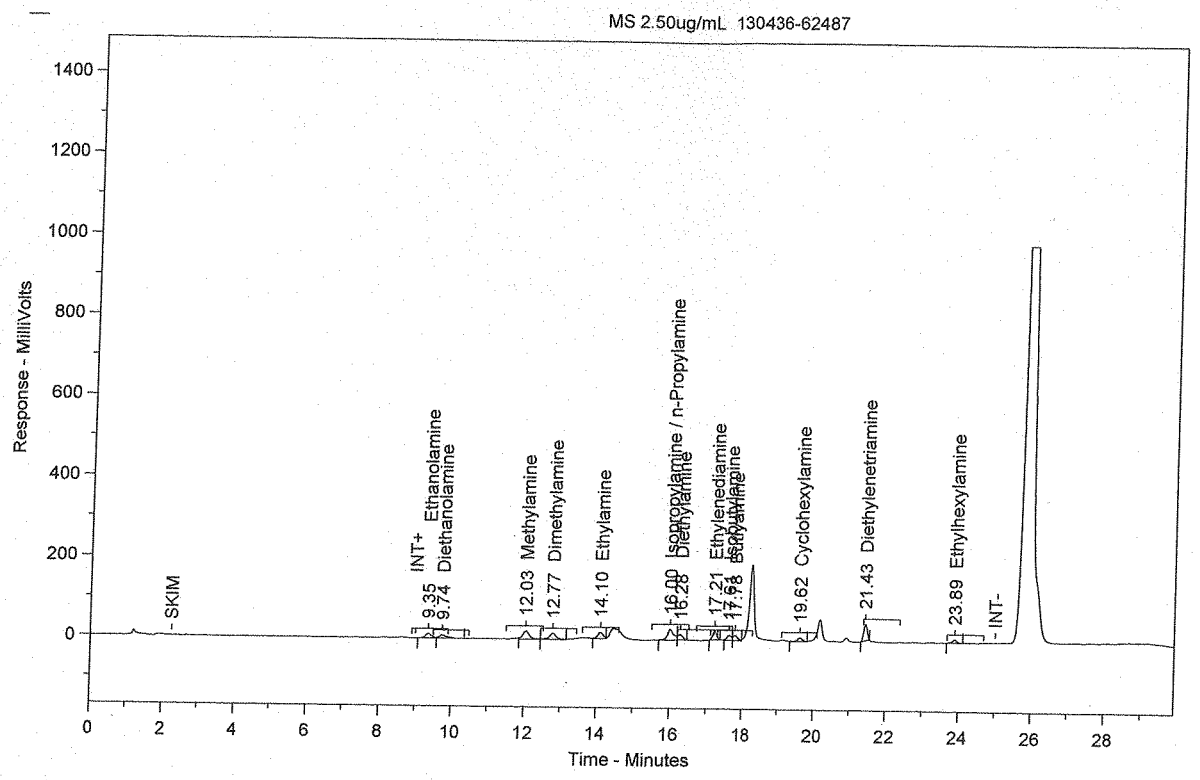
Total Area = 2336716

Total Height = 220395.8

Total Amount = 37.27942



05/03/13




Sample Name = **MS 2.50ug/mL 130436-62487** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0007.RAW**
Date Taken (end) = 5/3/2013 3:08:37 PM

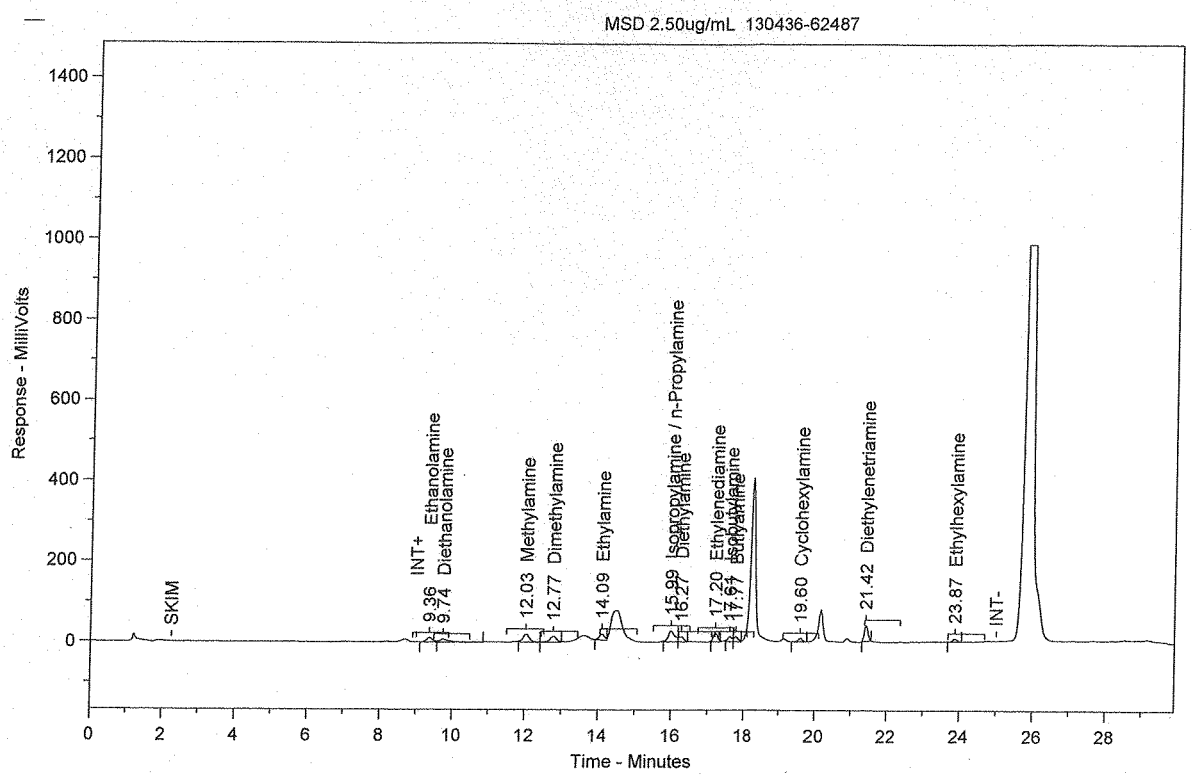
Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0007.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0007.BND
Concentration Units =

Run Time = 29.89889 Vial Number = 7
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.35 | Ethanolamine | 2.4143 | 6.662 | 134056 | 6.222 | SBB | 0.18 |
| 2 | 9.74 | Diethanolamine | 1.9370 | 5.345 | 118116 | 5.482 | TBB | 0.21 |
| 3 | 12.03 | Methylamine | 2.7128 | 7.486 | 258944 | 12.018 | BV | 0.19 |
| 4 | 12.77 | Dimethylamine | 2.8731 | 7.928 | 197630 | 9.172 | VB | 0.18 |
| 5 | 14.10 | Ethylamine | 2.2697 | 6.263 | 160846 | 7.465 | BB | 0.16 |
| 6 | 16.00 | Isopropylamine / n-Propylamine | 5.2074 | 14.370 | 318370 | 14.775 | BV | 0.19 |
| 7 | 16.28 | Diethylamine | 2.8917 | 7.979 | 121760 | 5.651 | VB | 0.17 |
| 8 | 17.21 | Ethylenediamine | 2.8842 | 7.959 | 172061 | 7.985 | BB | 0.13 |
| 9 | 17.61 | Isobutylamine | 3.0082 | 8.301 | 120667 | 5.600 | BV | 0.15 |
| 10 | 17.78 | Butlyamine | 2.3007 | 6.349 | 121832 | 5.654 | VB | 0.14 |
| 11 | 19.62 | Cyclohexylamine | 2.4238 | 6.688 | 81393 | 3.777 | BB | 0.13 |
| 12 | 21.43 | Diethylenetriamine | 2.8456 | 7.852 | 286163 | 13.281 | BB | 0.12 |
| 13 | 23.89 | Ethylhexylamine | 2.4709 | 6.818 | 62883 | 2.918 | BB | 0.13 |

Total Area = 2154721 Total Height = 212882.3 Total Amount = 36.23948




Sample Name = **MSD 2.50ug/mL 130436-62487** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0008.RAW**
Date Taken (end) = 5/3/2013 3:39:55 PM

Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0008.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0008.BND
Concentration Units =

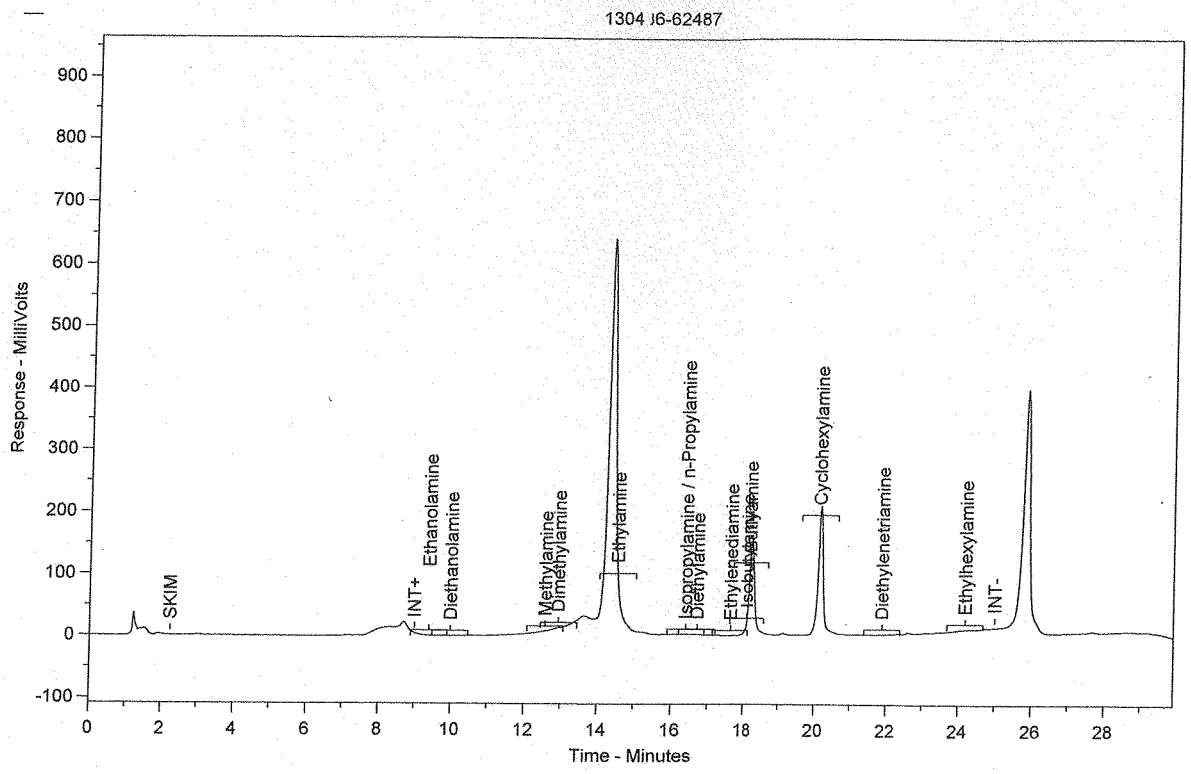
Run Time = 29.89889 Vial Number = 8
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.36 | Ethanolamine | 2.3075 | 6.544 | 128123 | 6.057 | SBB | 0.18 |
| 2 | 9.74 | Diethanolamine | 1.9535 | 5.540 | 119005 | 5.626 | TBB | 0.19 |
| 3 | 12.03 | Methylamine | 2.6594 | 7.542 | 253594 | 11.989 | BV | 0.18 |
| 4 | 12.77 | Dimethylamine | 2.7416 | 7.775 | 188581 | 8.915 | VB | 0.19 |
| 5 | 14.09 | Ethylamine | 2.1178 | 6.006 | 149133 | 7.050 | BB | 0.16 |
| 6 | 15.99 | Isopropylamine / n-Propylamine | 5.4852 | 15.555 | 335353 | 15.854 | BV | 0.19 |
| 7 | 16.27 | Diethylamine | 2.7092 | 7.683 | 114076 | 5.393 | VB | 0.16 |
| 8 | 17.20 | Ethylenediamine | 3.0844 | 8.747 | 188410 | 8.907 | BB | 0.13 |
| 9 | 17.61 | Isobutylamine | 2.8455 | 8.069 | 113794 | 5.380 | BV | 0.15 |
| 10 | 17.77 | Butlyamine | 2.1962 | 6.228 | 116299 | 5.498 | VB | 0.14 |
| 11 | 19.60 | Cyclohexylamine | 2.0972 | 5.947 | 70425 | 3.329 | BB | 0.13 |
| 12 | 21.42 | Diethylenetriamine | 2.8100 | 7.969 | 281539 | 13.310 | BB | 0.12 |
| 13 | 23.87 | Ethylhexylamine | 2.2558 | 6.397 | 56975 | 2.693 | BB | 0.13 |

Total Area = 2115308 Total Height = 206798.1 Total Amount = 35.26329



1-6
05/03/13




Sample Name = **130436-62487** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0009.RAW**
Date Taken (end) = 5/3/2013 4:11:17 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

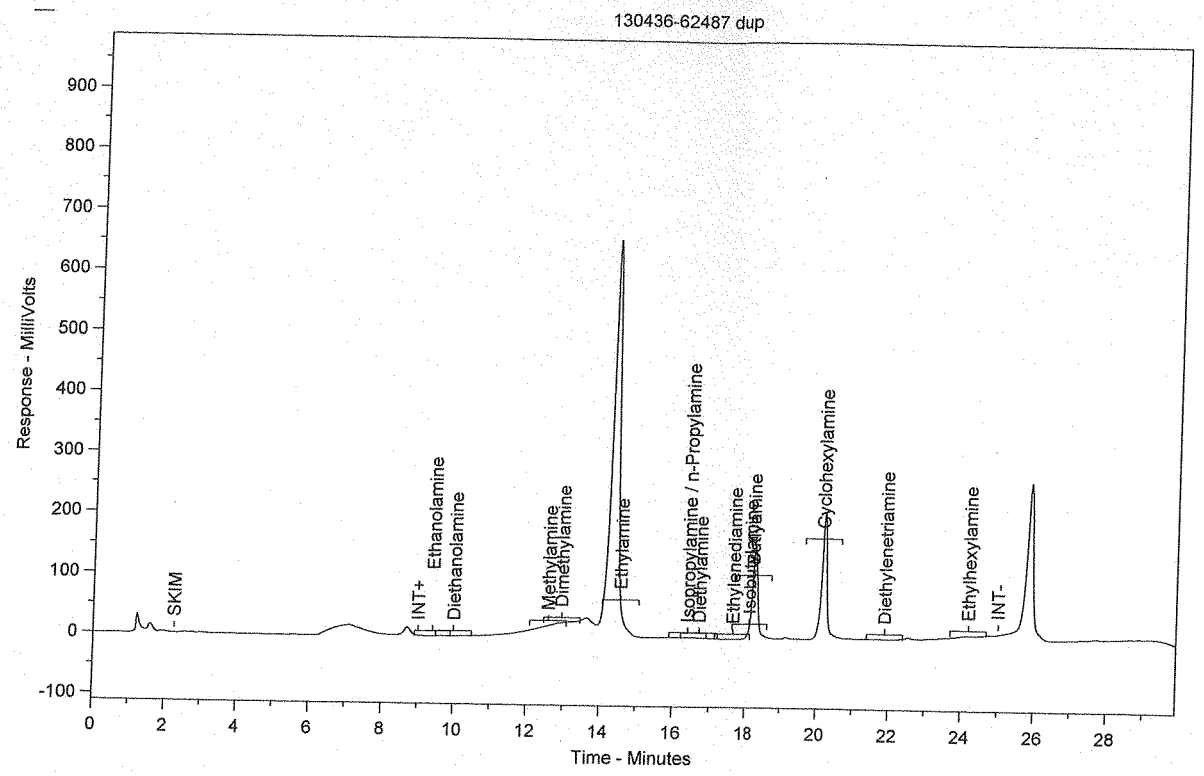
Run Time = 29.89889 Vial Number = 9
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0



56
05/03/13




Sample Name = **130436-62487 dup**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0010.RAW**
Date Taken (end) = 5/3/2013 4:42:36 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 10
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

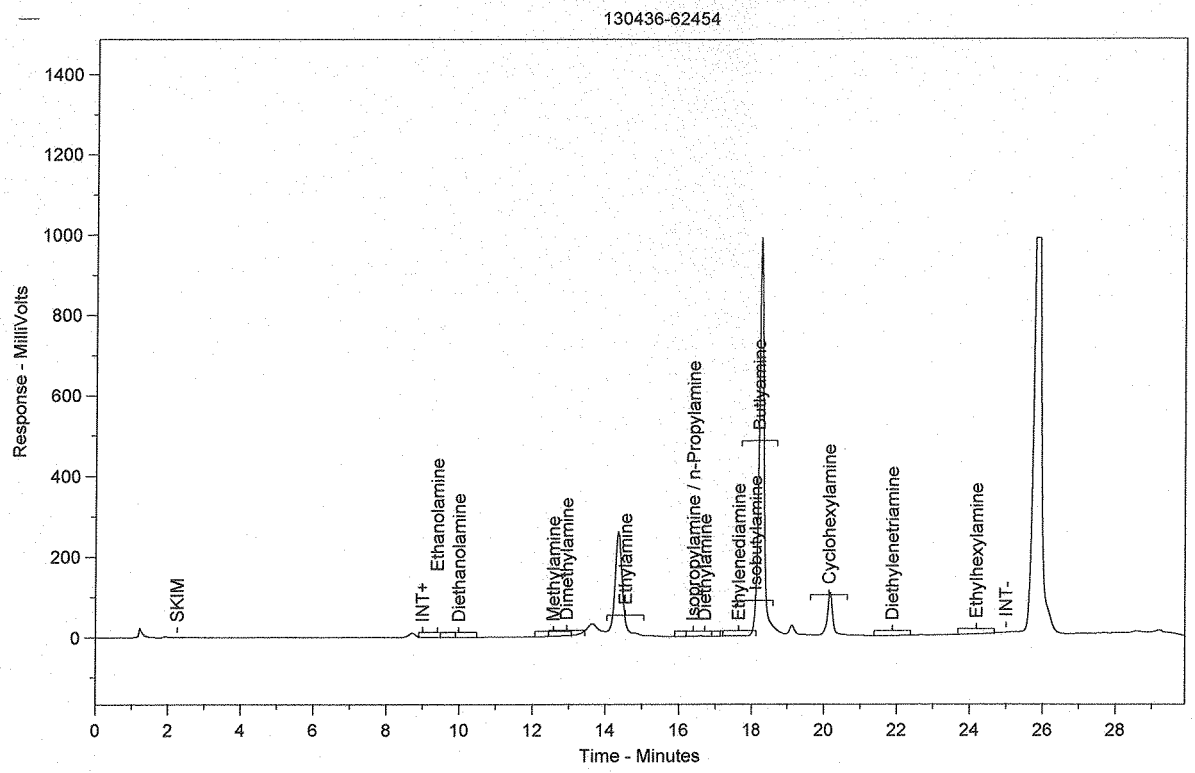
Total Area = 0

Total Height = 0

Total Amount = 0



05/03/13




Sample Name = **130436-62454** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0011.RAW**
Date Taken (end) = 5/3/2013 5:13:55 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

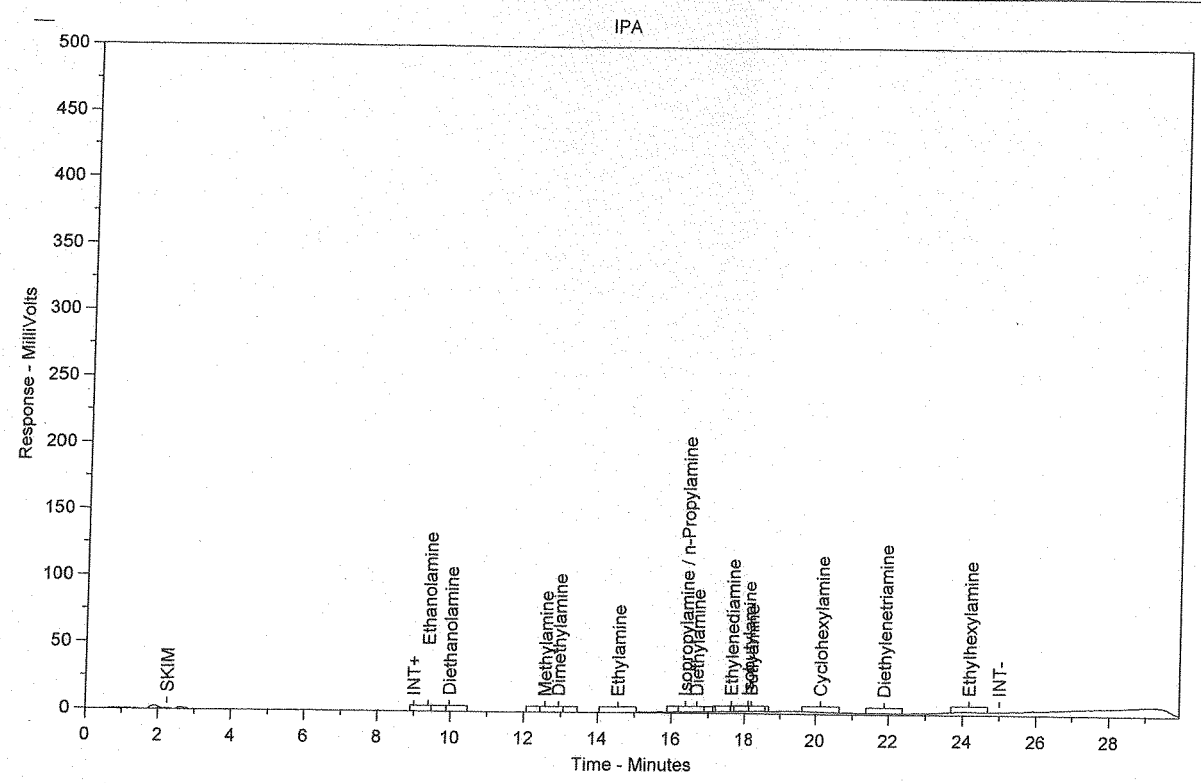
Run Time = 29.89889 Vial Number = 11
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0



EC
05/03/13




Sample Name = **IPA**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0012.RAW**
Date Taken (end) = 5/3/2013 5:45:13 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

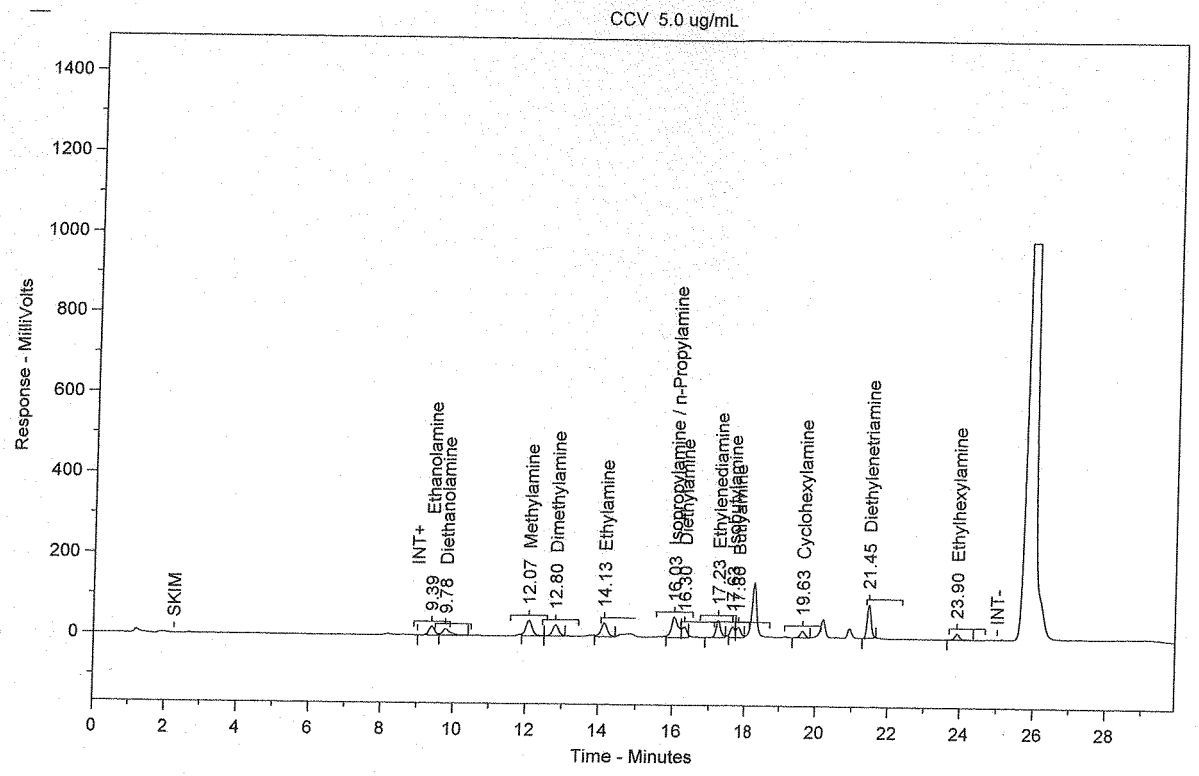
Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 12
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0




Sample Name = **CCV 5.0 ug/mL**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0013.RAW**
Date Taken (end) = 5/3/2013 6:16:31 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 13
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.39 | Ethanolamine | 4.6481 | 6.548 | 258088 | 5.789 | SBB | 0.18 |
| 2 | 9.78 | Diethanolamine | 4.6013 | 6.482 | 234926 | 5.270 | TBB | 0.20 |
| 3 | 12.07 | Methylamine | 4.9790 | 7.014 | 495163 | 11.107 | BV | 0.19 |
| 4 | 12.80 | Dimethylamine | 5.1305 | 7.228 | 352934 | 7.916 | VB | 0.18 |
| 5 | 14.13 | Ethylamine | 5.2954 | 7.460 | 422373 | 9.474 | BB | 0.17 |
| 6 | 16.03 | Isopropylamine / n-Propylamine | 10.6013 | 14.935 | 648139 | 14.538 | BV | 0.18 |
| 7 | 16.30 | Diethylamine | 5.6096 | 7.903 | 236202 | 5.298 | VB | 0.15 |
| 8 | 17.23 | Ethylenediamine | 5.2137 | 7.345 | 397702 | 8.921 | BB | 0.14 |
| 9 | 17.63 | Isobutylamine | 5.5146 | 7.769 | 231496 | 5.193 | BV | 0.14 |
| 10 | 17.80 | Butlyamine | 4.5896 | 6.466 | 243042 | 5.452 | VB | 0.15 |
| 11 | 19.63 | Cyclohexylamine | 4.5831 | 6.456 | 153906 | 3.452 | BB | 0.13 |
| 12 | 21.45 | Diethylenetriamine | 5.1570 | 7.265 | 643702 | 14.439 | BB | 0.12 |
| 13 | 23.90 | Ethylhexylamine | 5.0612 | 7.130 | 140535 | 3.152 | BB | 0.14 |

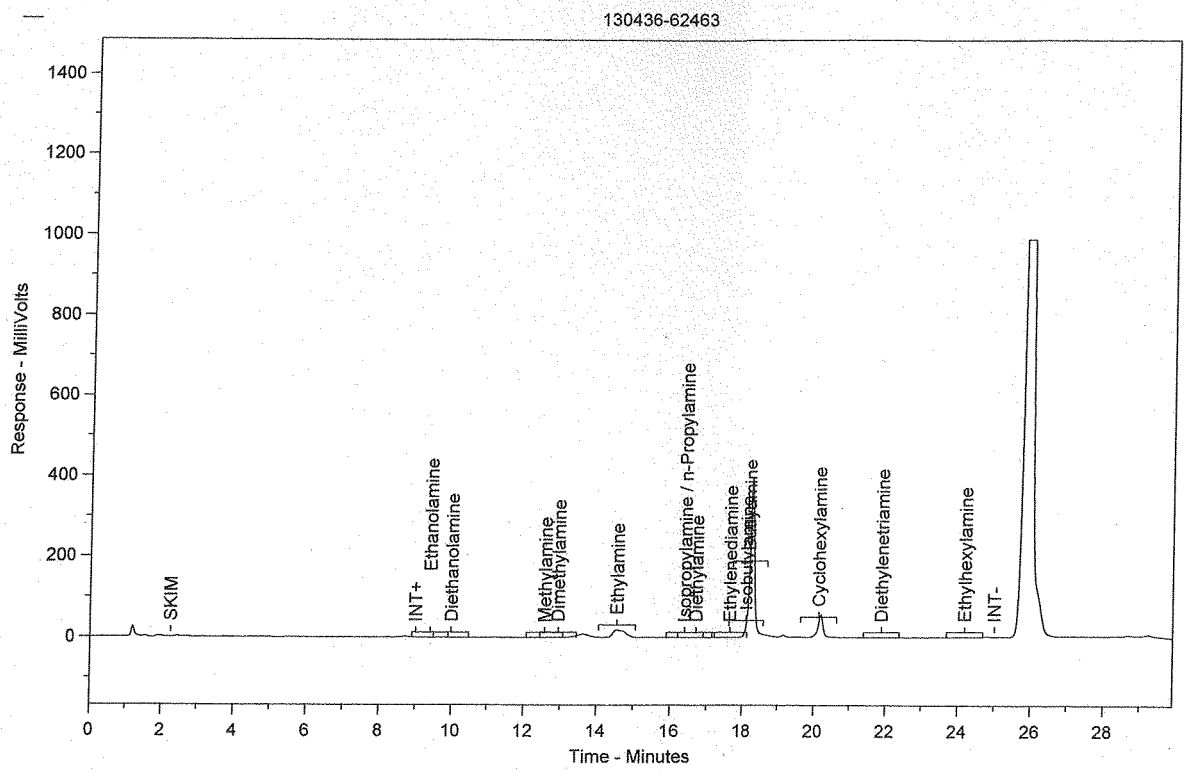
Total Area = 4458209

Total Height = 424016.5

Total Amount = 70.98515



CS10413




Sample Name = **130436-62463**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0014.RAW**
Date Taken (end) = 5/3/2013 6:47:49 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

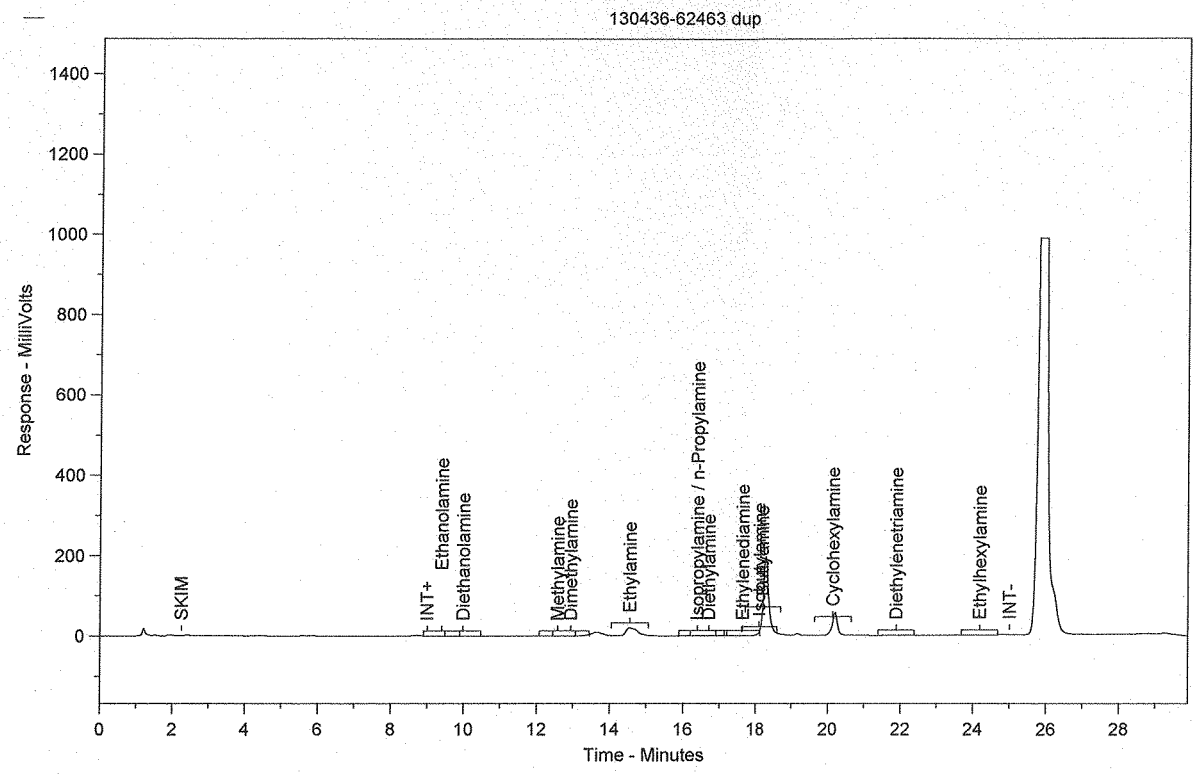
Vial Number = 14
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0

Total Height = 0

Total Amount = 0




Sample Name = **130436-62463 dup** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0015.RAW**
Date Taken (end) = 5/3/2013 7:19:07 PM

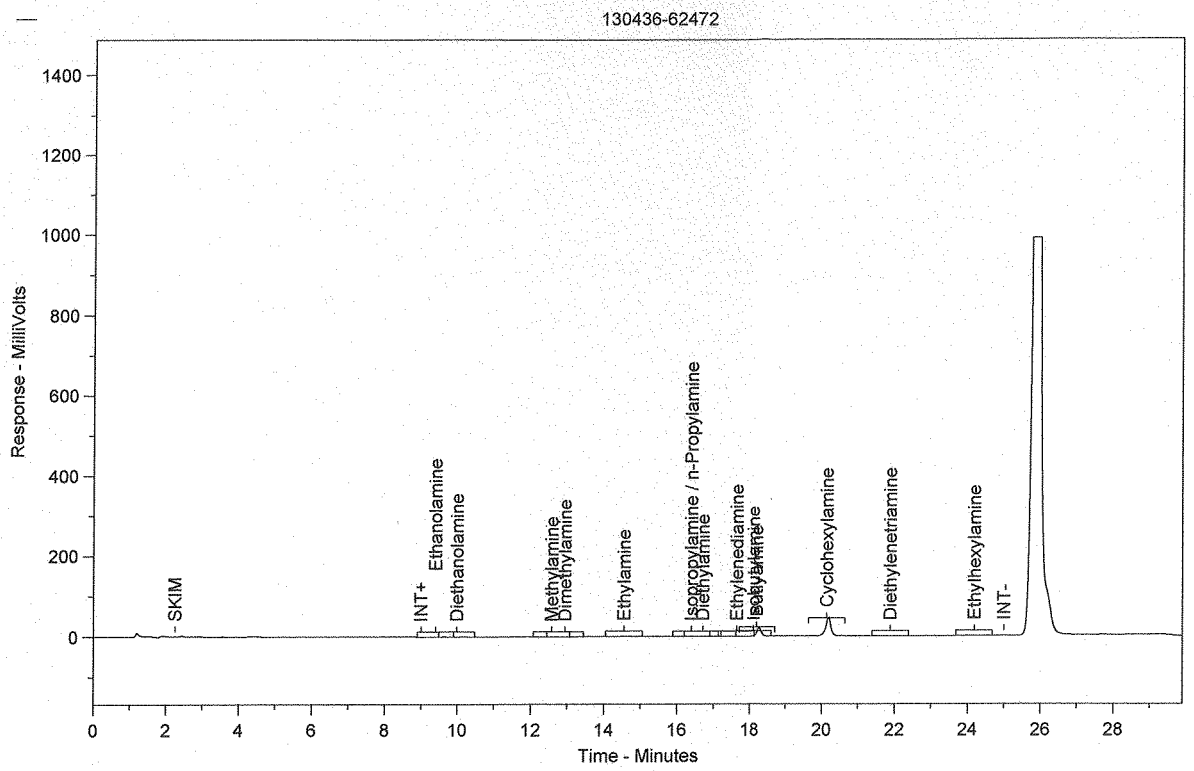
Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0015.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0015.BND
Concentration Units =

Run Time = 29.89889 Vial Number = 15
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0




Sample Name = **130436-62472** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0016.RAW**
Date Taken (end) = 5/3/2013 7:50:25 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

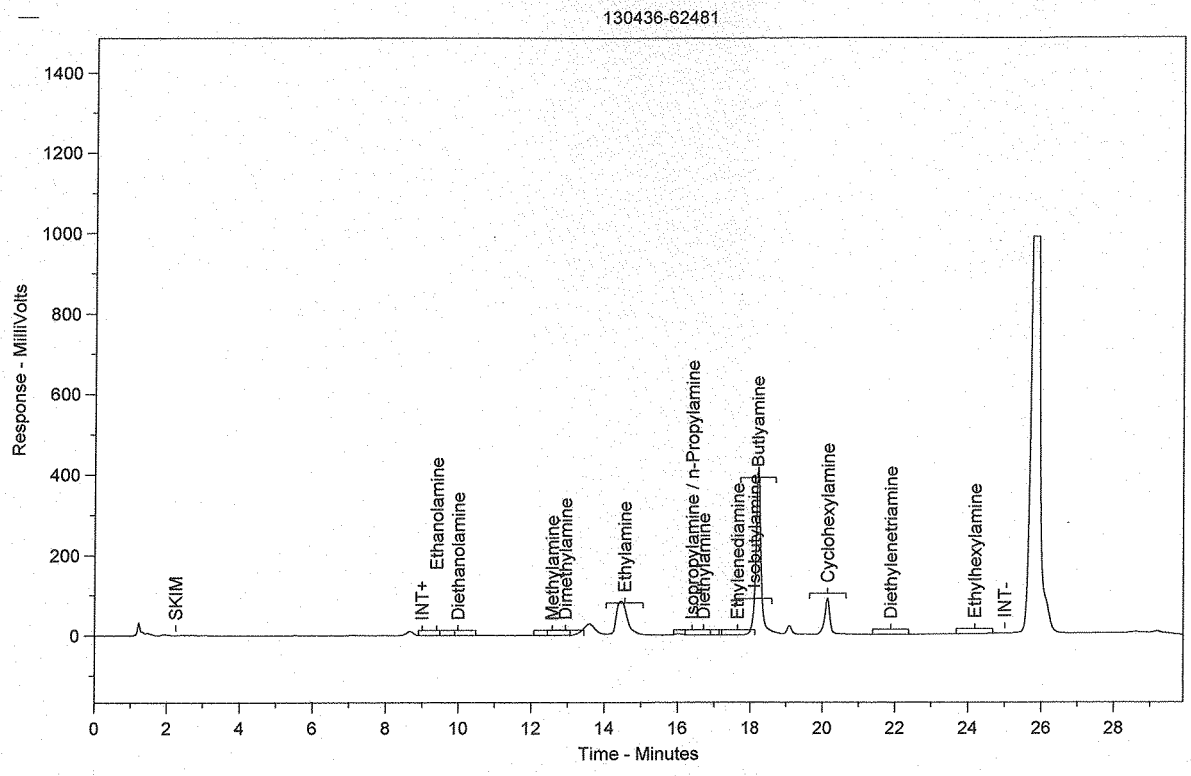
Run Time = 29.89889 Vial Number = 16
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0



EC
05/04/13




Sample Name = **130436-62481** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0017.RAW**
Date Taken (end) = 5/3/2013 8:21:43 PM

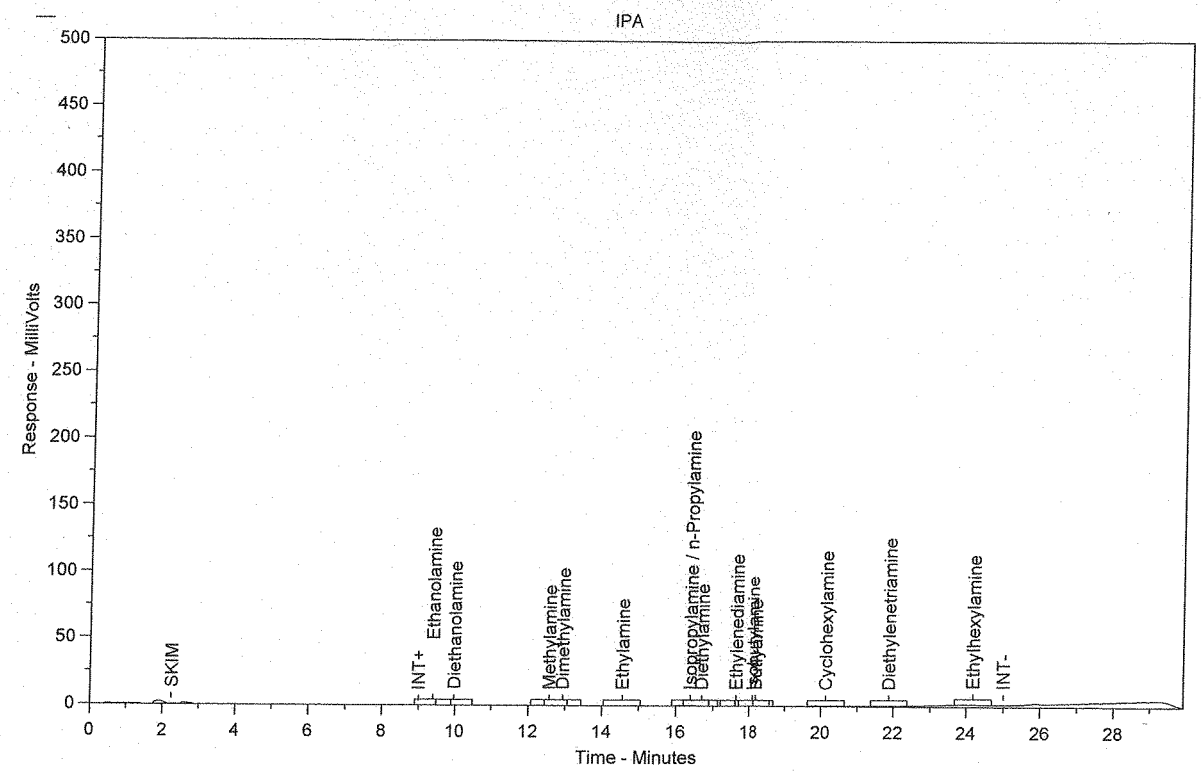
Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889 Vial Number = 17
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0




Sample Name = **IPA**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0018.RAW**
Date Taken (end) = 5/3/2013 8:53:01 PM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

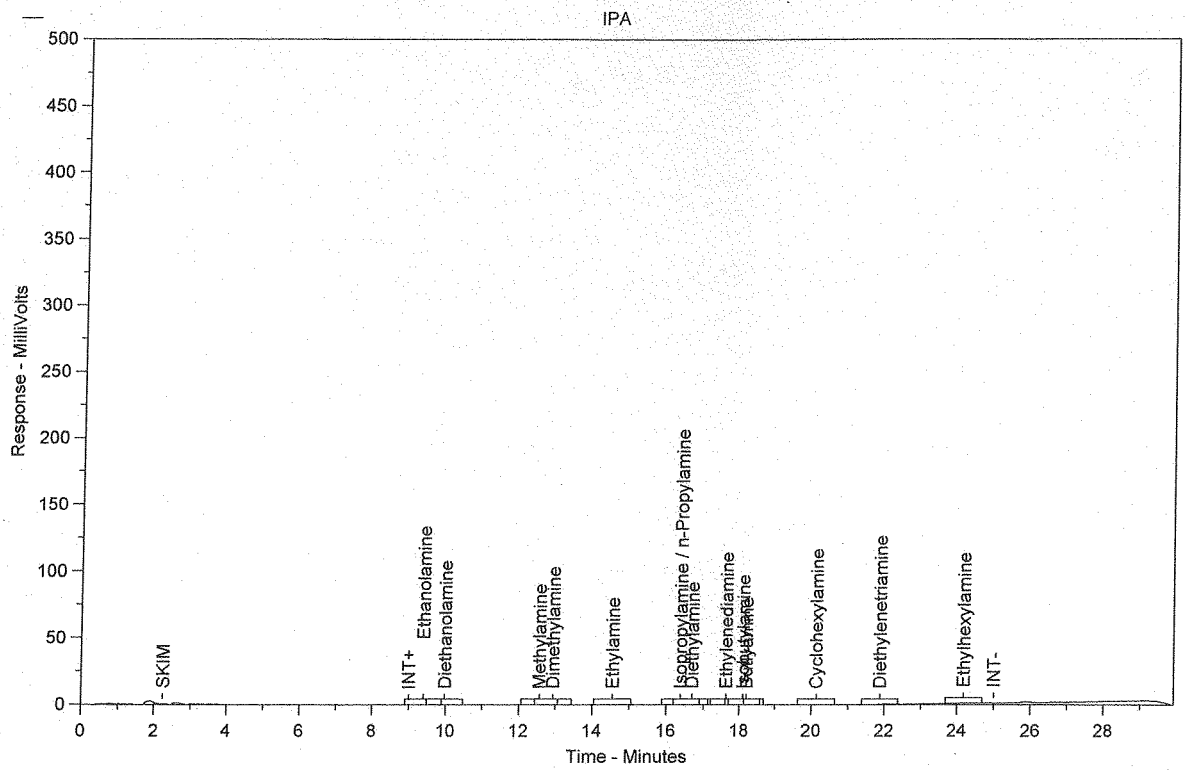
Vial Number = 18
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0

Total Height = 0

Total Amount = 0




Sample Name = **IPA** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0023.RAW**
Date Taken (end) = 5/3/2013 11:29:37 PM

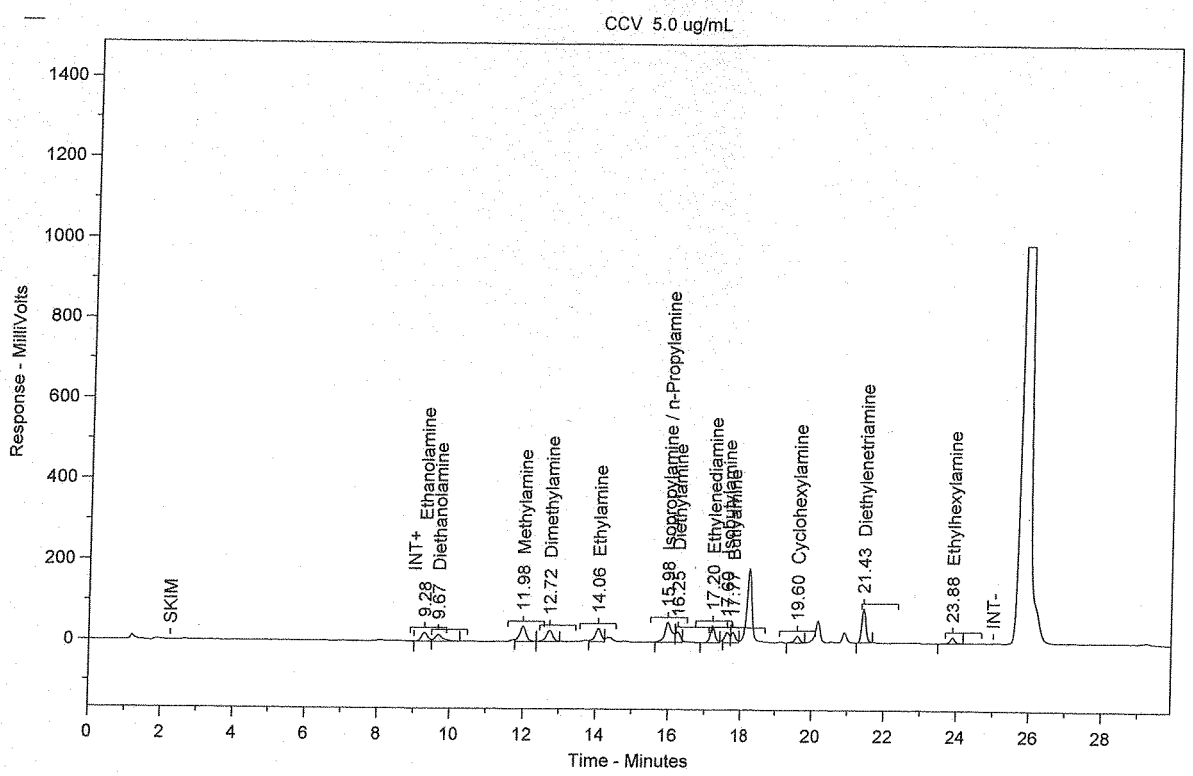
Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889 Vial Number = 23
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0 Total Height = 0 Total Amount = 0




Sample Name = **CCV 5.0 ug/mL**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0024.RAW**
Date Taken (end) = 5/4/2013 12:00:54 AM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

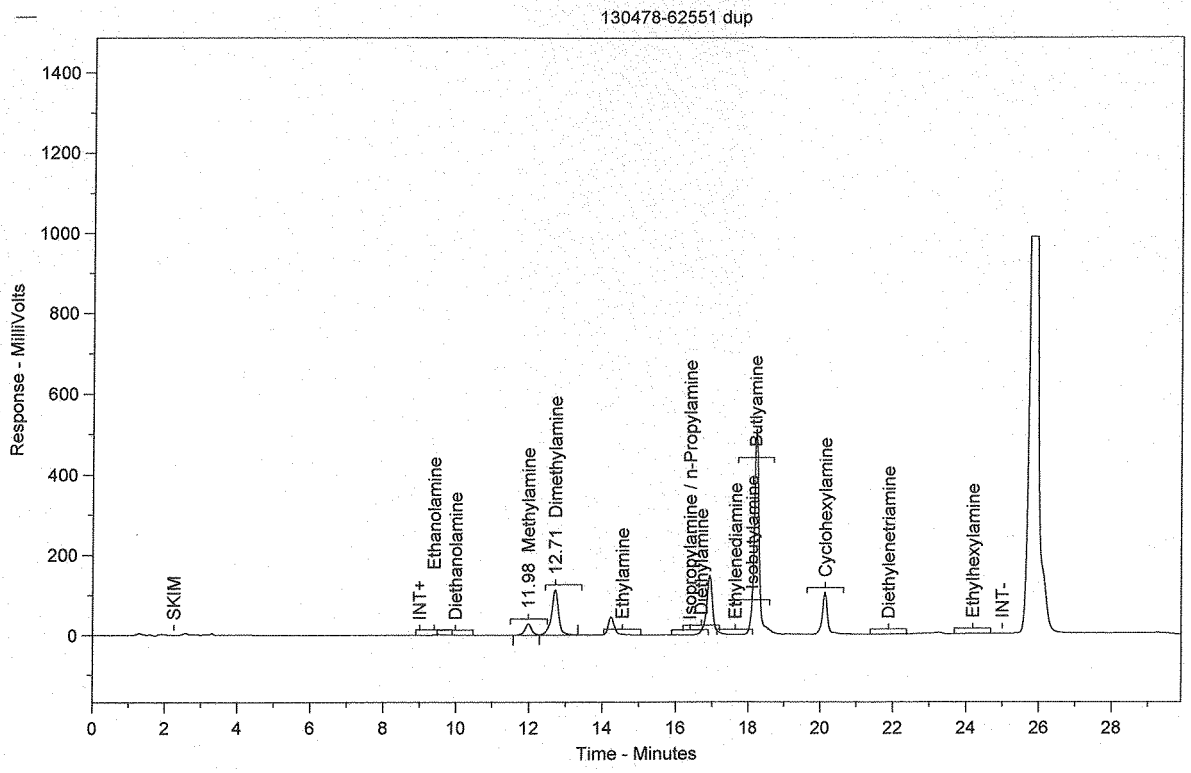
Vial Number = 24
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.28 | Ethanolamine | 4.6918 | 6.483 | 260512 | 5.742 | SBB | 0.18 |
| 2 | 9.67 | Diethanolamine | 5.0137 | 6.928 | 248280 | 5.472 | TBB | 0.21 |
| 3 | 11.98 | Methylamine | 5.0507 | 6.979 | 502926 | 11.085 | BV | 0.19 |
| 4 | 12.72 | Dimethylamine | 5.4213 | 7.491 | 372907 | 8.219 | VB | 0.19 |
| 5 | 14.06 | Ethylamine | 5.1744 | 7.150 | 410879 | 9.056 | BB | 0.16 |
| 6 | 15.98 | Isopropylamine / n-Propylamine | 10.9799 | 15.171 | 671285 | 14.796 | BV | 0.21 |
| 7 | 16.25 | Diethylamine | 5.6202 | 7.766 | 236646 | 5.216 | VB | 0.15 |
| 8 | 17.20 | Ethylenediamine | 5.1930 | 7.175 | 395356 | 8.714 | BB | 0.14 |
| 9 | 17.60 | Isobutylamine | 5.5357 | 7.649 | 232465 | 5.124 | BV | 0.15 |
| 10 | 17.77 | Butlyamine | 4.4061 | 6.088 | 233321 | 5.143 | VB | 0.15 |
| 11 | 19.60 | Cyclohexylamine | 5.0348 | 6.957 | 169073 | 3.726 | BB | 0.14 |
| 12 | 21.43 | Diethylenetriamine | 5.2796 | 7.295 | 665794 | 14.674 | BB | 0.12 |
| 13 | 23.88 | Ethylhexylamine | 4.9714 | 6.869 | 137642 | 3.034 | BB | 0.14 |

Total Area = 4537086

Total Height = 418190.6

Total Amount = 72.37245




Sample Name = **130478-62551 dup** Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0026.raw**
Date Taken (end) = 5/4/2013 1:03:30 AM

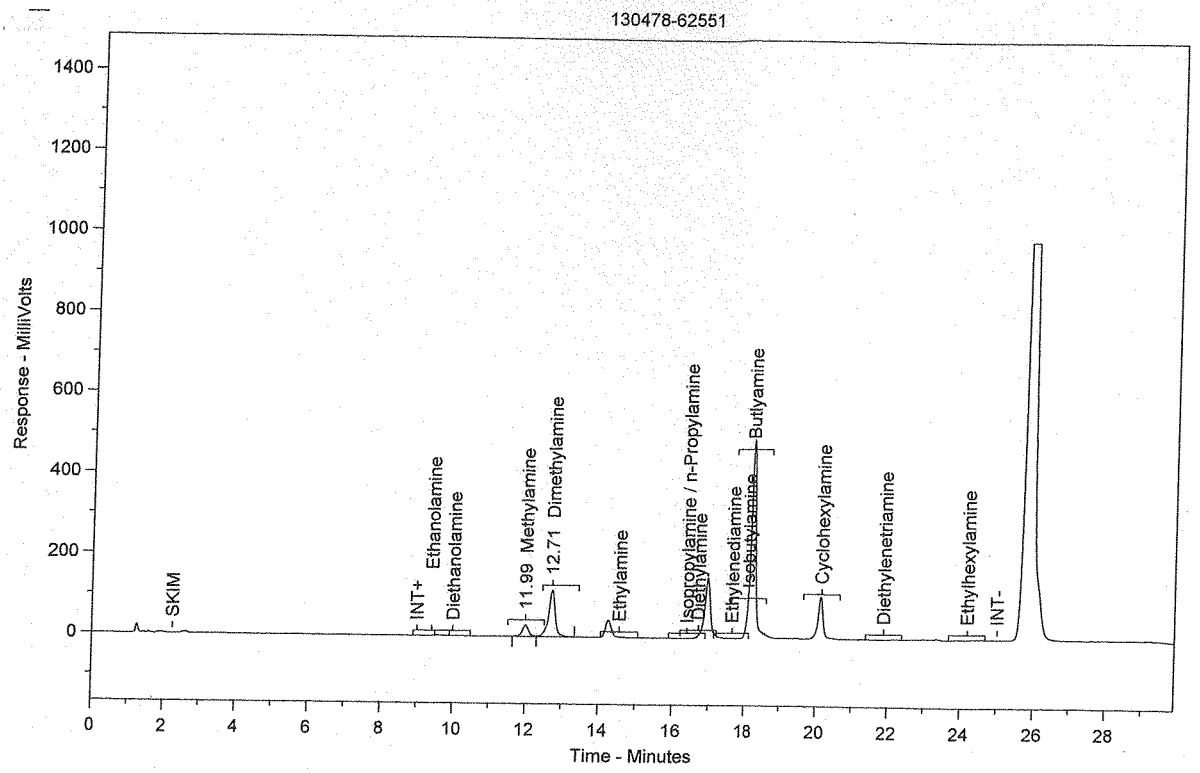
Method File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0026.BND
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0026.BND
Concentration Units =

Run Time = 29.89889 Vial Number = 26
Injection Volume = 20 Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 11.98 | Methylamine | 3.8032 | 14.607 | 370333 | 19.494 | SBB | 0.19 |
| 2 | 12.71 | Dimethylamine | 22.2340 | 85.393 | 1529385 | 80.506 | TBB | 0.18 |

Total Area = 1899718 Total Height = 140888.5 Total Amount = 26.03719




Sample Name = **130478-62551**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0025.raw**
Date Taken (end) = 5/4/2013 12:32:12 AM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

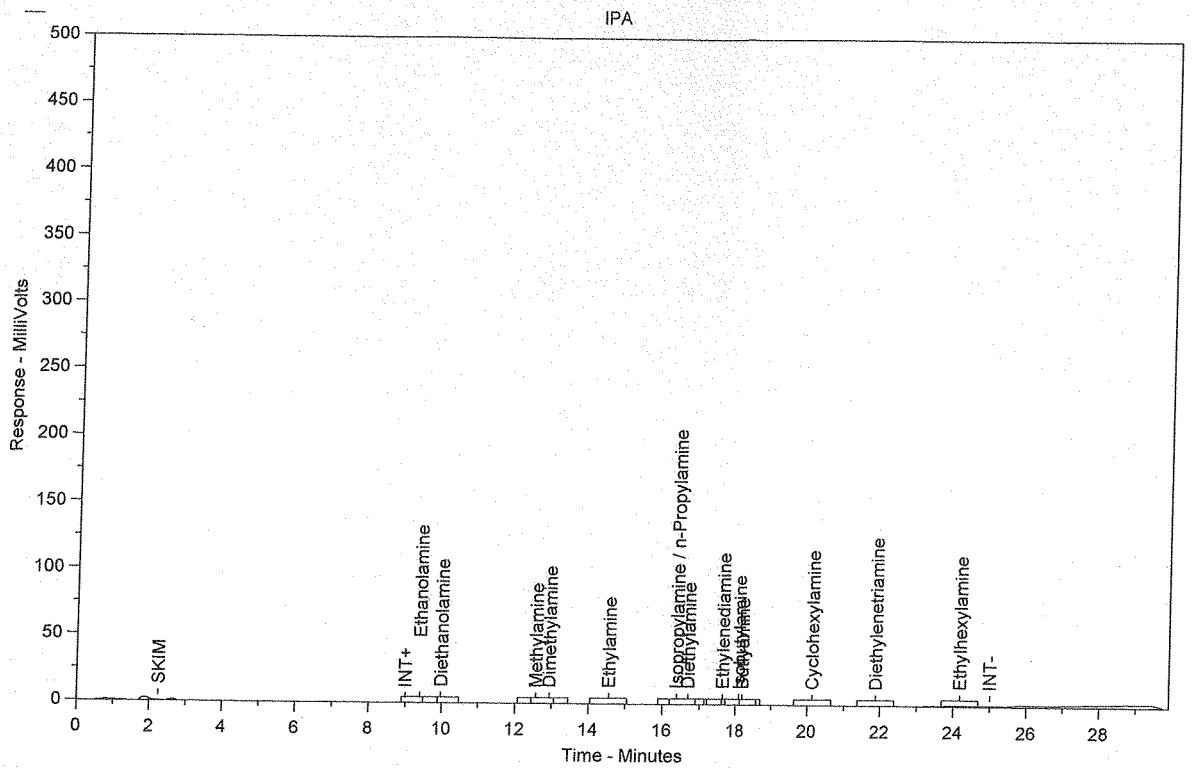
Vial Number = 25
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 11.99 | Methylamine | 3.6806 | 14.331 | 357597 | 19.112 | SBB | 0.18 |
| 2 | 12.71 | Dimethylamine | 22.0019 | 85.669 | 1513420 | 80.888 | TBB | 0.18 |

Total Area = 1871017

Total Height = 143872.7

Total Amount = 25.68247




Sample Name = **IPA**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0031.RAW**
Date Taken (end) = 5/4/2013 3:40:05 AM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

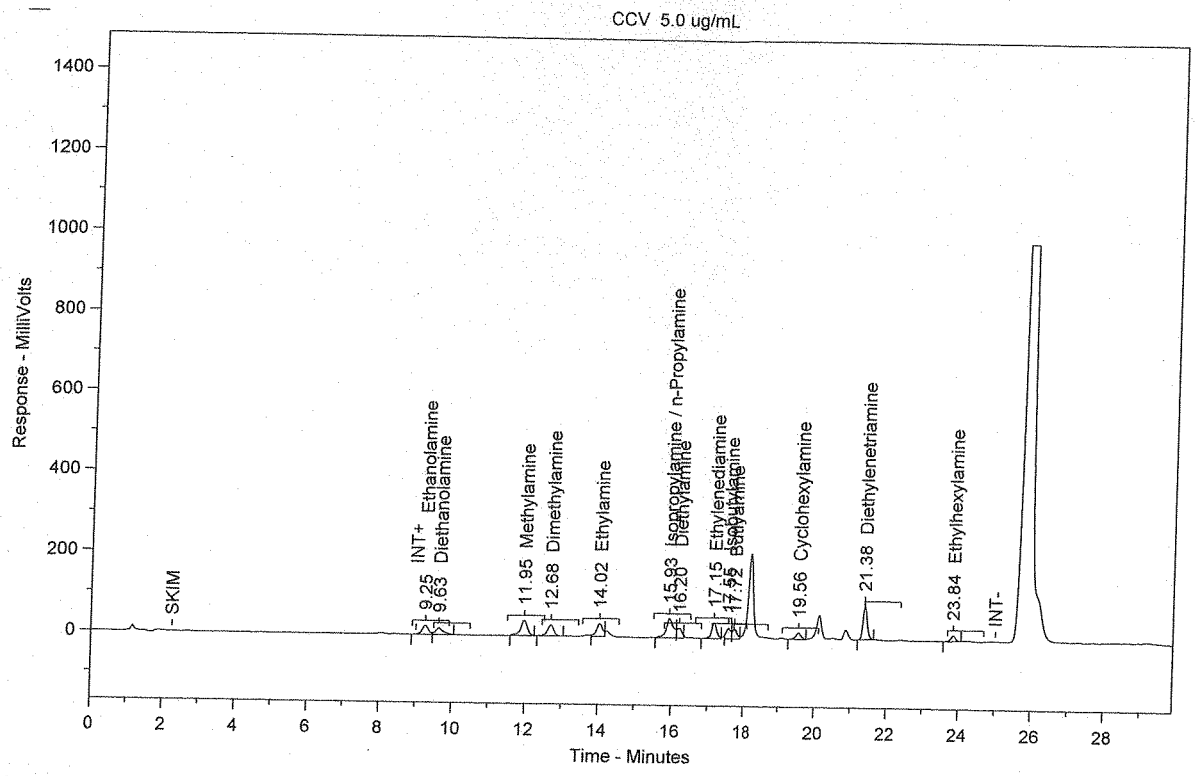
Vial Number = 31
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|

Total Area = 0

Total Height = 0

Total Amount = 0




Sample Name = **CCV 5.0 ug/mL**

Instrument = HPLC#2

Raw File Name = **C:\Chromeperfect 2\Data\HPLC#2\2013\050313\050313.0032.RAW**
Date Taken (end) = 5/4/2013 4:11:23 AM

Method File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\AMINES 2012.MET
Method Description=AMINES

Calibration File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2012\Amines 2012.CAL
Concentration Units =

Run Time = 29.89889
Injection Volume = 20

Vial Number = 32
Dilution Factor = 1

| Peak # | Ret. Time | Name | Amount | Amt % | Area | Area % | Type | Width |
|---|---|---|---|---|---|---|---|---|
| 1 | 9.25 | Ethanolamine | 5.0917 | 7.080 | 282715 | 6.291 | SBB | 0.19 |
| 2 | 9.63 | Diethanolamine | 5.2204 | 7.259 | 254497 | 5.663 | TBB | 0.20 |
| 3 | 11.95 | Methylamine | 4.7984 | 6.672 | 475675 | 10.584 | BB | 0.18 |
| 4 | 12.68 | Dimethylamine | 4.8823 | 6.789 | 335831 | 7.473 | BB | 0.18 |
| 5 | 14.02 | Ethylamine | 4.9457 | 6.877 | 389393 | 8.664 | BB | 0.17 |
| 6 | 15.93 | Isopropylamine / n-Propylamine | 11.1804 | 15.546 | 683540 | 15.210 | BV | 0.22 |
| 7 | 16.20 | Diethylamine | 5.6392 | 7.841 | 237448 | 5.284 | VB | 0.15 |
| 8 | 17.15 | Ethylenediamine | 5.2382 | 7.284 | 400482 | 8.911 | BB | 0.15 |
| 9 | 17.55 | Isobutylamine | 5.4252 | 7.544 | 227380 | 5.059 | BV | 0.15 |
| 10 | 17.72 | Butlyamine | 4.3556 | 6.056 | 230647 | 5.132 | VB | 0.15 |
| 11 | 19.56 | Cyclohexylamine | 5.0586 | 7.034 | 169872 | 3.780 | BB | 0.14 |
| 12 | 21.38 | Diethylenetriamine | 5.3373 | 7.422 | 676313 | 15.049 | BB | 0.13 |
| 13 | 23.84 | Ethylhexylamine | 4.7427 | 6.595 | 130340 | 2.900 | BB | 0.14 |

Total Area = 4494132

Total Height = 410631.8

Total Amount = 71.91564



DS
5/10/13

File Name = C:\Chromeperfect 2\Methods and Sequences\#3 HPLC - UV #2\2013\050313amines.SEQ
File Date = 5/3/2013 11:18:57 AM
Analyst=

| Entry # | Raw File Name | Method File Name | Sample Name | Vial # | DF |
|---|---|---|---|---|---|
| 1 | 050313.0001.raw | AMINES 2012.MET | IPA | 1 | 1 |
| 2 | 050313.0002.raw | AMINES 2012.MET | CCV 5.0 ug/mL | 2 | 1 |
| 3 | 050313.0003.raw | AMINES 2012.MET | SS 5.0 ug/mL | 3 | 1 |
| 4 | 050313.0004.raw | AMINES 2012.MET | Method Blank | 4 | 1 |
| 5 | 050313.0005.raw | AMINES 2012.MET | LCS 2.50ug/mL | 5 | 1 |
| 6 | 050313.0006.raw | AMINES 2012.MET | LCSD 2.50ug/mL | 6 | 1 |
| 7 | 050313.0007.raw | AMINES 2012.MET | MS 2.50ug/mL 130436-62487 | 7 | 1 |
| 8 | 050313.0008.raw | AMINES 2012.MET | MSD 2.50ug/mL 130436-62487 | 8 | 1 |
| 9 | 050313.0009.raw | AMINES 2012.MET | 130436-62487 | 9 | 1 |
| 10 | 050313.0010.raw | AMINES 2012.MET | 130436-62487 dup | 10 | 1 |
| 11 | 050313.0011.raw | AMINES 2012.MET | 130436-62454 | 11 | 1 |
| 12 | 050313.0012.raw | AMINES 2012.MET | IPA | 12 | 1 |
| 13 | 050313.0013.raw | AMINES 2012.MET | CCV 5.0 ug/mL | 13 | 1 |
| 14 | 050313.0014.raw | AMINES 2012.MET | 130436-62463 | 14 | 1 |
| 15 | 050313.0015.raw | AMINES 2012.MET | 130436-62463 dup | 15 | 1 |
| 16 | 050313.0016.raw | AMINES 2012.MET | 130436-62472 | 16 | 1 |
| 17 | 050313.0017.raw | AMINES 2012.MET | 130436-62481 | 17 | 1 |
| 18 | 050313.0018.raw | AMINES 2012.MET | IPA | 18 | 1 |
| 19 | 050313.0019.raw | AMINES 2012.MET | 130478-62559 | 19 | 1 |
| 20 | 050313.0020.raw | AMINES 2012.MET | 130478-62558 | 20 | 1 |
| 21 | 050313.0021.raw | AMINES 2012.MET | 130478-62555 | 21 | 1 |
| 22 | 050313.0022.raw | AMINES 2012.MET | 130478-62557 | 22 | 1 |
| 23 | 050313.0023.raw | AMINES 2012.MET | IPA | 23 | 1 |
| 24 | 050313.0024.raw | AMINES 2012.MET | CCV 5.0 ug/mL | 24 | 1 |
| 25 | 050313.0025.raw | AMINES 2012.MET | 130478-62551 | 25 | 1 |
| 26 | 050313.0026.raw | AMINES 2012.MET | 130478-62551 dup | 26 | 1 |
| 27 | 050313.0027.raw | AMINES 2012.MET | 130478-62552 | 27 | 1 |
| 28 | 050313.0028.raw | AMINES 2012.MET | 130478-62553 | 28 | 1 |
| 29 | 050313.0029.raw | AMINES 2012.MET | 130478-62554 | 29 | 1 |
| 30 | 050313.0030.raw | AMINES 2012.MET | 130478-62556 | 30 | 1 |
| 31 | 050313.0031.raw | AMINES 2012.MET | IPA | 31 | 1 |
| 32 | 050313.0032.raw | AMINES 2012.MET | CCV 5.0 ug/mL | 32 | 1 |