

## **Organic Aerosol Components observed in Worldwide Datasets from Aerosol Mass Spectrometry**

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Table S1: Summary of the location, time, duration, and previous publications of the AMS datasets that are analyzed in this study, Zhang et al. (2007a) and Jimenez et al. (2009).  
 Note: Site type 1 = urban, Site type 2 = urban downwind/rural/remote.

| Location            | Field Campaign | Site type | Time Period             | Duration | Season | Previous Publications   |
|---------------------|----------------|-----------|-------------------------|----------|--------|---|
| Boulder, CO, USA    | BFS            | 1         | 6/7/2003 - 6/20/2003    | 14 days  | Su     | Nemitz et al.(2008)   |
| New York City, USA  | PMTACS         | 1         | 1/7/2004 - 2/6/2004     | 30 days  | W      | Weimer et al. (2006)  |
| Manchester, UK      |                | 1         | 1/17/2002 - 1/28/2002   | 11 days  | W      | Allan et al. (2003a; 2003b)   |
| Riverside, CA, USA  | SOAR-1         | 1         | 7/14/2005 - 8/13/2005   | 30 days  | Su     | DeCarlo et al. (2006), Docherty et al. (2008), Cubison et al. (2008)  |
| Tokyo, Japan        |                | 1         | 7/23/2003 - 8/14/2003   | 23 days  | Su     | Takegawa et al. (2005; 2006)  |
| Beijing, China      |                | 1         | 7/9/2006 - 7/21/2006    | 12 days  | Su     | Sun et al. (2009)   |
| Zurich, Switzerland |                | 1         | 7/14/2005 - 8/4/2005    | 21 days  | Su     | Lanz et al. (2007)  |
| Pittsburgh, PA, USA | PAQS           | 1         | 9/6/2002 - 9/22/2002    | 15 days  | F      | Zhang et al. (2004; 2005a; 2005b; 2005c; 2007b) Ulbrich et al. (2009) |
| Mexico City, Mexico | MILAGRO        | 1         | 3/10/2006 - 3/30/2006   | 21 days  | Sp     | Aiken et al. (2008; 2009)   |
| Tokyo, Japan        |                | 1         | 1/20/2004 - 2/10/2004   | 20 days  | W      | Takegawa et al. (2005; 2006)  |
| Vancouver, Canada   | PACIFIC-2001   | 1         | 8/11/2001 - 8/24/2001   | 13 days  | Su     | Boudries et al. (2004), Alfarra et al. (2004)                         |
| New York City, USA  | PMTACS         | 1         | 6/30/2001 - 8/5/2001    | 36 days  | Su     | Drewnick et al. (2004a; 2004b)  |
| Edinburgh, UK       |                | 1         | 10/31/2000 - 11/10/2000 | 10 days  | F      | Allan et al. (2003a; 2003b)   |
| Mainz, Germany      |                | 1         | 9/16/2004 - 10/1/2004   | 15 days  | F      | Vester et al. (2007)  |

|  |                  |   |   |         |         |  |
|--|------------------|---|---|---------|---------|--|
| Houston, TX,<br>USA                              | TexAQS-<br>2000  | 1 | 8/15/2000<br>-<br>9/15/2000                                 | 31 days | Su - F  | Tanaka et al.(2003)  |
| Manchester, UK                                   |                  | 1 | 6/14/2001<br>-<br>6/25/2001                                 | 11 days | Su      | Allan et al. (2003a;<br>2003b)   |
| Duke Forest, NC,<br>USA                          |                  | 2 | 9/13/2004<br>-<br>9/21/2004                                 | 7 days  | F       |  |
| Hyytiälä,<br>southern Finland                    | BACCI &<br>QUEST | 2 | 3/31/2005<br>-<br>4/15/2005                                 | 15 days | Sp      | Raatikainen et al. (2009)  |
| Chelmsford, UK                                   | TORCH-1          | 2 | 7/29/2003<br>-<br>8/31/2003                                 | 33 days | Su      | Cubison et al. (2006)  |
| Taunus,<br>Germany                               |                  | 2 | 7/14/2004<br>- 8/4/2004                                     | 21 days | Su      | Dusek et al. (2006),<br>Hings et al., (2007)                             |
| Cruise track<br>along East coast<br>of USA, Leg1 | NEAQS1           | 2 | 7/18/2002<br>-<br>7/26/2002;<br>7/29/2002<br>-<br>8/10/2002 | 21 days | Su      | De Gouw et al. (2005),<br>Marcolli et al. (2006),<br>Bates et al. (2005) |
| Thompson Farm,<br>NH, USA                        |                  | 2 | 7/9/2005 -<br>8/15/2005                                     | 38 days | Su      | Cottrell et al. (2008)   |
| Cruise track<br>along East coast<br>of USA, Leg2 | NEAQS2           | 2 | 7/29/2002<br>-<br>8/10/2002                                 | 13 days | Su      | De Gouw et al. (2005),<br>Marcolli et al. (2006),<br>Bates et al. (2005) |
| Pinnacle State<br>Park, NY, USA                  |                  | 2 | 7/14/2004<br>- 8/5/2004                                     | 22 days | Su      | Bae et al. (2006)  |
| Fukue Island,<br>Japan                           |                  | 2 | 3/18/2003<br>- 4/3/2003                                     | 16 days | Sp      | Takami et al. (2005)   |
| Fukue Island,<br>Japan                           |                  | 2 | 4/3/2003 -<br>4/16/2003                                     | 13 days | Sp      | Takami et al. (2005)   |
| Fukue Island,<br>Japan                           |                  | 2 | 5/10/2003<br>- 6/3/2003                                     | 24 days | Sp - Su | Takami et al. (2005)   |
| Chebogue Pt.,<br>Nova Scotia,<br>Canada          | ICARTT           | 2 | 7/7/2004 -<br>8/14/2004                                     | 38 days | Su      | Williams et al. (2007)   |
| North Norfolk<br>Coastline                       | TORCH-2          | 2 | 4/25/200-<br>5/26/2004                                      | 31 days | Sp      | Gysel et al. (2007)  |
| Okinawa Island,<br>Japan                         |                  | 2 | 10/3/2003<br>-<br>10/28/2003                                | 25 days | F       | Miyoshi et al. (2009)  |
| Okinawa Island,<br>Japan                         |                  | 2 | 10/28/2003<br>-<br>12/2/2003                                | 35 days | F - W   | Miyoshi et al. (2009)  |
| Okinawa Island,<br>Japan                         |                  | 2 | 12/2/2003<br>-<br>12/24/2003                                | 22 days | W       | Miyoshi et al. (2009)  |

|                          |          |   |                             |         |    |                       |
|--------------------------|----------|---|-----------------------------|---------|----|-----------------------|
| Okinawa Island,<br>Japan |          | 2 | 3/13/2004<br>- 4/8/2004     | 26 days | Sp | Miyoshi et al. (2009) |
| Okinawa Island,<br>Japan |          | 2 | 4/8/2004 -<br>4/27/2004     | 19 days | Sp | Miyoshi et al. (2009) |
| Cheju Island,<br>Korea   | ACE-Asia | 2 | 4/11/2001<br>-<br>4/30/2001 | 19 days | Sp | Topping et al. (2004) |

Table S2: Summary of the location, time, and previous publications of the AMS datasets in Lanz et al. (2009) and from other sites (Crete and Egbert). Note: Site type 1 = urban, Site type 2 = urban downwind/rural/remote.

| Location   | Site type | Time Period                                    | Season | Previous Publications     |
|--|-----------|--|--------|---------------------------|
| Rhine Valley,<br>Switzerland,<br>Austria,<br>Liechtenstein | 2         | 2/16/2007-<br>2/22/2007;2/8/2008-<br>2/13/2008 | Wi     | Weimer et al. (2009)      |
| Zurich ,<br>Switzerland                                    | 1         | 1/6/2006-1/25/2006                             | Wi     | Lanz et al. (2008)        |
| Grenoble,<br>France  | 1         | 1/14/2009-1/30/2009                            | Wi     | Favez et al. (2009)       |
| Massongex,<br>Switzerland                                  | 2         | 11/23/2006-<br>12/17/2006                      | Wi     | Perron et al. (2009)      |
| Harkingen,<br>Switzerland                                  | 2         | 5/12/2005-5/30/2005                            | Sp     |                           |
| Reiden,<br>Switzerland                                     | 2         | 1/27/2006-2/13/2006                            | Wi     |                           |
| Roveredo,<br>Switzerland                                   | 2         | 3/1/2005-3/15/2005                             | Sp     | Alfarra et al. (2007)     |
| Roveredo,<br>Switzerland                                   | 2         | 11/25/2005-<br>12/15/2005                      | Wi     | Alfarra et al. (2007)     |
| Payerne,<br>Switzerland                                    | 2         | 5/31/2006-7/3/2006                             | Su     |                           |
| Payerne,<br>Switzerland                                    | 2         | 1/12/2007-2/17/2007                            | Wi     |                           |
| Hohenpeissenberg,<br>Germany                               | 2         | 5/19/2002-5/31/2002                            | Su     | Hock et al. (2008)        |
| Jungfrauoch,<br>Switzerland                                | 2         | 4/30/2008-5/29/2008                            | Sp     |                           |
| Finakolia (Crete),<br>Greece                               | 2         | 5/8/2009-6/5/2009                              | Su     | Hildebrandt et al. (2009) |
| Egbert, Canada   | 2         | 5/14/2007-6/15/2007                            | Su     | Slowik et al. (2009)      |

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