

## DAFTAR PUSTAKA

- A., Satsangi, Pachauri Tripti, Singla Vyoma, Lakhani Anita, K. Maharaj. Kumari. 2012. Organic and elemental carbon aerosol at a suburban site. *Atmospheric Research*. 113: 13-21.
- A., S., Rashid, M., Mat, R., & Puji, L. 2012. A Preliminary Survey Of Air Quality In Makassar City South Sulawesi Indonesia. *Jurnal Teknologi* 57: 1.
- Air Resources Laboratory (ARL). 2022. HYSPLIT. (Online), <https://www.arl.noaa.gov/hysplit/>, diakses 16 Maret 2022.
- Air Resources Laboratory (ARL). 2022. HYSPLIT. (Online), [http://ready.arl.noaa.gov/HYSPLIT\\_traj.php](http://ready.arl.noaa.gov/HYSPLIT_traj.php), diakses 26 April 2022.
- Aly, Sumarni Hamid. 2015. *Emisi Transportasi*. Makassar: Penebar PLUS+.
- Alnawaiseh NA, Hashim JH, Isa ZM. 2015. Relationship between vehicle count and particulate air pollution in Amman, Jordan. *Asia Pac J Public Health*. Mar;27(2):NP1742-51. doi: 10.1177/1010539512455046. Epub 2012 Aug 16. PMID: 22899706.
- Alves, Célia & Duarte, Márcio & Nunes, Teresa & Moreira, R. & Rocha, S.. 2014. Carbonaceous particles emitted from cooking activities in Portugal. *Global Nest Journal*. 16: 412-420.
- Amin, M., Putri, R. M., Handika, R. A., Ullah, A., Goembira, F., Phairuang, W., & Furuuchi, M. 2021. Size-Segregated Particulate Matter Down to PM<sub>0.1</sub> and Carbon Content during the Rainy and Dry Seasons in Sumatra Island, Indonesia. *Atmosphere*. 12(11): 1441.
- Anisarida, A. A., & Santosa, W. 2021. Pengaruh Geometrik Jalan Substandar Terhadap Potensi Terjadinya Kecelakaan Lalu Lintas di Jalan Nasional. *Jurnal Transportasi*, 21. 3: 219-228.
- Aslam, A., Ibrahim, M., Shahid, I., Mahmood, A., Irshad, M. K., Yamin, M., ... & Shamshiri, R. R. 2020. Pollution characteristics of particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) and constituent carbonaceous aerosols in a South Asian future megacity. *Applied Sciences*. 10(24), 8864.

- Badan Pemeriksa Keuangan Republik Indonesia. 2008. *Petunjuk Teknis Pemeriksaan Atas Pengendalian Pencemaran Udara dari Sumber Bergerak*. Jakarta: Direktorat Litbang, BPK-RI.
- Biegalski, S., Colbeck, I., Holländer, W., Koutrakis, P., Landsberger, S., Pacyna, J. M., & Zouboulis, A. I. 2013. *Airborne particulate matter* (Vol. 4). Springer.
- Cao, JJ., Wu F., Chow J.C., dkk. 2009. Spatial distribution and seasonal Variation of char-EC and soot-EC in the atmosphere over China. *Atmos Environ.*43:6066-6073.
- Chen, Pengfei, Kang Shichang, Sabur F. Abdullaev, Mustafu S. Safarov, Jie Huang, Zhaofu Hu, Lekhendra Tripathy, and Chaoliu Li. 2021. Significant Influence of Carbonates on Determining Organic Carbon and Black Carbon: A Case Study in Tajikistan, Central Asia. *Environ. Sci. Technol* 55. 5: 2839–2846
- Chow, J. C., Watson, J. G., Chen, L. W. A., Chang, M. O., Robinson, N. F., Trimble, D., & Kohl, S. 2007. The IMPROVE\_A temperature protocol for thermal/optical carbon analysis: maintaining consistency with a long-term database. *Journal of the Air & Waste Management Association*. 57(9): 1014-1023.
- Chow, J.C., Watson, J.G., Kuhns, H.D., Etyemezian, V., Lowenthal, D.H., Crow, D.J., Kohl, S.D., Engelbrecht, J.P., Green, M.C., 2004. Source profiles for industrial, mobile, and area sources in Big Bend Regional Aerosol Visibility and Observational (BRAVO) study. *Chemosphere*. 54: 185-208.
- Contini, D., Vecchi, R., Viana, M. 2018. Carbonaceous Aerosols in the Atmosphere. *Atmosphere*. 9(5):181.
- Departemen Pekerjaan Umum Direktorat Jenderal Bina Marga. 1997. Tata Cara Perencanaan Geometrik Jalan Antar Kota. Jalan No. 038/TBM/1997
- Direktorat Jenderal Bina Marga Direktorat Pembinaan Jalan Kota. 1990. Panduan Penentuan Klasifikasi Fungsi Jalan di Wilayah Perkotaan. No. 010/BNKT/1990
- Engling, G., He, J., Betha, R., & Balasubramanian, R. 2014. Assessing the regional impact of Indonesian biomass burning emissions based on organic molecular

- tracers and chemical mass balance modeling. *Atmospheric Chemistry and Physics*. 14(15): 8043-8054.
- Environmental Analysis Facility Desert Research Institute. 2017. DRI Model 2015 Multiwavelength Thermal/Optical Carbon Analysis (TOR/TOT) of Aerosol Filter Samples – Method IMPROVE\_A for the Chemical Speciation Network (CSN).
- European Union Environment Agency (EUEA). 2020. Air Quality in Europe, 1993 - A Pilot Report. (Online), <https://www.eea.europa.eu/publications/2-9167-057-X/page021.html>, diakses 9 Maret 2022.
- Fujii, Y., Iriana, W., Oda, M., Puriwigati, A., Tohno, S., Lestari, P., & Huboyo, H. S. 2014. Characteristics of carbonaceous aerosols emitted from peatland fire in Riau, Sumatra, Indonesia. *Atmospheric Environment*. 87:164-169.
- Ghozali, I. 2016. *Aplikasi Analisis Multivariete dengan Program IBM SPSS 23 Edisi 8*. Semarang: Badan Penerbit Universitas Diponegoro.
- Godish, Tadh. 2004. *Air Quality Fourth Edition*. Boca Raton: CRC Press Inc.
- Harisuryo, Rafdito, Sumardi, & Setiyono Budi. 2015. Sistem Pengukuran Data Suhu, Kelembaban, dan Tekanan Udara dengan Telemetri Berbasis Frekuensi Udara. *Transient Vol. 4 No. 3*, ISSN 2302-9927,652.
- Han, Y. M., Cao, J. J., Lee, S. C., Ho, K. F., and An, Z. S.: Different characteristics of char and soot in the atmosphere and their ratio as an indicator for source identification in Xi'an, China. *Atmos. Chem. Phys.*, 10, 595–607.
- Hanami, Zarah Arwieny. 2017. *Analisis Hubungan Kecepatan Kendaraan Terhadap Emisi Bergerak Sepeda Motor untuk Parameter CO dan CO<sub>2</sub> di Ruas Jalan Arteri Kota Makassar*. Skripsi. Makassar: Departemen Teknik Lingkungan Universitas Hasanuddin.
- Hobbs. 1995. *Perencanaan dan Teknik Lalu Lintas*. Yogyakarta: Gajah Mada University Press.
- Hustim, Muralia. 2012. *A Study on Road Traffic Noise and ITS Mitigation in Developing Countries (Case Study of Makassar City Indonesia)*. Disertasi. Department of Architecture Graduate School of Human-Environment Studies. Kyushu University, Fukuoka.

- Inerb, M.; Phairuang, W.; Paluang, P.; Hata, M.; Furuuchi, M.; Wangpakapattanawong, P. Carbon and Trace Element Compositions of Total Suspended Particles (TSP) and Nanoparticles (PM<sub>0.1</sub>) in Ambient Air of Southern Thailand and Characterization of Their Sources. *Atmosphere* 2022, 13, 626. <https://doi.org/10.3390/atmos130406>.
- Ismiyati, Marlita Devi, dan Deslida Saidah. 2014. Pencemaran Udara Akibat Emisi Gas Buang Kendaraan Bermotor. *Jurnal Manajemen Transportasi & Logistik (JMTransLog)*, Vol 01 No. 03.
- Kementerian PUPR Badan SDM. 2017. *Modul 3 Dasar-dasar Perencanaan Geometrik Ruas Jalan*. PUSDIKLAT Jalan, Perumahan, Permukiman, dan Pengembangan Infrastruktur Wilayah.
- Khairiah. 2013. *Analisis Konsentrasi Debu dan Keluhan Kesehatan pada Masyarakat di Sekitar Pabrik Semen di Desa Kuala Indah Kecamatan SeiSuka Kabupaten Batu Bara Tahun 2012*. Skripsi. Medan: Departemen Kesehatan Lingkungan Universitas Sumatera Utara.
- Kumar, A., Singh, S., Kumar, N., Singh, N., Kumar, K., & Chourasiya, S. 2021. Assessment of carbonaceous fractions in ambient aerosols at high altitude and lowland urban locations of Kumaon Province, Indian Himalaya. *SN Applied Sciences*. 3(1), 1-14.
- Kyung Hwan Kim, Kazuhiko Sekiguchi, Shinji Kudo, Kazuhiko Sakamoto. 2011. Characteristics of Atmospheric Elemental Carbon (Char and Soot) in Ultrafine and Fine Particles in a Roadside Environment, Japan. *Aerosol and Air Quality Research*. 11:1-12.
- Lakes Environmental Software. 2022. WRPLOT VIEW. (Online), <https://www.weblakes.com/software/freeware/wrplot-view>, diakses 28 Mei 2022.
- Liu, X., Peng, L., Bai, H. and Mu, L. (2015). Characteristics of Organic Carbon and Elemental Carbon in the Ambient Air of Coking Plant. *Aerosol Air Qual. Res.* 15: 1485-1493.
- Makagiarsar, Charmelita. 2004. *Analisis Pengaruh Faktor Meteorologi Terhadap Konsentrasi SPM (Suspended Particulate Matter) di Tiga Kawasan Perutukan*

- di DKI Jakarta Periode Tahun 2001-2003. Skripsi. Jakarta: Universitas Trisakti.
- Mishra, M., Kulshrestha, U.C. 2021. Source Impact Analysis Using Char-EC/Soot-EC Ratios in the Central Indo-Gangetic Plain (IGP) of India. *Aerosol Air Quality Research*. 21, 200628.
- Pavuluri, C.M., K. Kawamura., S.G. Aggarwal, dan T. Swaminathan. 2011. Characteristics, seasonality and sources of carbonaceous and ionic components in the tropical aerosols from Indian region. *Atmos. Chem. Phys.*, 11. 8215-8230.
- Putri, R. M., Amin, M., Suciari, T. F., Faisal, M. A. F., Auliani, R., Ikemori, F., ... & Furuuchi, M. 2021. Site-specific variation in mass concentration and chemical components in ambient nanoparticles (PM<sub>0.1</sub>) in North Sumatra Province-Indonesia. *Atmospheric Pollution Research*. 12(6), 101062.
- Rahman, I. A., Huboyo, H. S., & Hadiwidodo, M. 2015. *Karakteristik Karbon Organik Dan Elemen Karbon (Oc Dan Ec) Dalam Pm 2.5 Ambien Di Sekitar Lahan Gambut (Studi Kasus: Kabupaten Siak Provinsi Riau)*. Disertasi. Semarang: Universitas Diponegoro.
- Ramadhan, Rizki. 2020. Analisis Pengaruh Aktivitas Kendaraan Bermotor Dan Faktor Meteorologi Terhadap Konsentrasi Total Suspended Particulate (Tsp) Di Kawasan Universitas Pertamina. Skripsi. Jakarta: Teknik Lingkungan Universitas Pertamina.
- Rauf, A.U., Mallongi, A., Lee, K., Daud, A., Hatta, M., Al Madhoun, W. and Astuti, R.D.P., 2021. Potentially Toxic Element Levels in Atmospheric Particulates and Health Risk Estimation around Industrial Areas of Maros, Indonesia. *Toxics*. 9(12): 328.
- Rengarajan, Ramabadrn & Sarin, M.M. & Sudheer, A.K.. 2007. Carbonaceous and inorganic species in atmospheric aerosols during wintertime over urban and high-altitude sites in North India. *Journal of Geophysical Research*. 112. D21307. 10.1029/2006JD008150.

- Ruslan, R., & Idham, M. 2020. Penentuan Jenis Tikungan dan Geometrik Jalan (Studi Kasus: Jalan Kayu Api Kuala Penaso, Kecamatan Talang Muandau). *Jurnal TeKLA*. 2(2): 74-80.
- Salam, A., Ullah, M., Islam, M. D., Salam, M., & Ullah, S. M. (2013). Carbonaceous species in total suspended particulate matters at different urban and suburban locations in the Greater Dhaka region, Bangladesh. *Air Quality, Atmosphere & Health*. 6(1): 239-245.
- Sembiring, Alvin Christianta. 2018. *Pengaruh Aktivitas Penghuni Apartemen Terhadap Kualitas Udara dalam Ruang Apartemen pada Parameter PM2.5 dan PM10*. Skripsi. Surabaya: Teknik Lingkungan ITS.
- Sheoran, Rahul, Umesh Chandra Dumka, Dimitris G. Kaskaoutis, Georgios Grivas, Kirpa Ram, Jai Prakash, Rakesh K. Hooda, Rakesh K. Tiwari, and Nikos Mihalopoulos. 2021. "Chemical Composition and Source Apportionment of Total Suspended Particulate in the Central Himalayan Region". *Atmosphere* 12, no. 9: 1228.
- SNI 7119-3:2017
- Su, L., Yuan, Z., Fung, J. C., & Lau, A. K. 2015. A comparison of HYSPLIT backward trajectories generated from two GDAS datasets. *Science of the Total Environment*. 506: 527-537.
- Suryani, Sri and Fahrunnisa. 2018. *J. Phys.: Conf. Ser.* 979: 12-41.
- Sutrisno, Endro dan Irawan Wisnu Wardhana. 2009. Penentuan Faktor Emisi *Total Suspended Particulate* (TSP) dari Pembakaran Sampah Domestik Secara Terbuka di Kelurahan Tembalang, Meteseh dan Bulusan Kecamatan Tembalang-Semarang. *Jurnal PRESIPITASI VOL. 6 No. 1*. ISSN 1907-187X.
- Taradipha MRR, Rushayati SB, Haneda NF. 2019. Karakteristik lingkungan terhadap komunitas serangga. *JPSL*. 9(2): 394-404.
- United States Environmental Protection Agency (EPA). 2022. Air. (Online), [https://search.epa.gov/epasearch/?querytext=air&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result\\_template=#](https://search.epa.gov/epasearch/?querytext=air&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result_template=#), diakses 7 Maret 2022.

- Peraturan Pemerintah Republik Indonesia No. 22 Tahun 2021 tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup. Jakarta: BPK RI.
- Vallero, Daniel A. 2008. *Fundamentals of Air Pollution*. Elsevier: Academic Press.
- Wang, J., Yu, A., Yang, L., & Fang, C. 2019. Research on organic carbon and elemental carbon distribution characteristics and their influence on fine particulate matter (PM<sub>2.5</sub>) in Changchun City. *Environments*. 6(2): 21.
- Wiriaadiputri, P.A. 2012. *Studi Perbandingan Konsentrasi Total Suspended Particulate (TSP) Di Dalam dan Di Luar Ruang Kelas (Studi Kasus: Sekolah Dasar Negeri Pondokcina 1 Depok)*. Skripsi. Depok: Teknik Lingkungan Universitas Indonesia.
- Wiranto, Riduansyah. *Pengaruh U-Turn (Putar Balik Arah Terhadap Kinerja Arus Lalu Lintas Ruas Jalan Tengku Amir Hamzah Kota Medan (Studi Kasus)*. Skripsi. Medan: Teknik Sipil Universitas Muhammadiyah Sumatera Utara.
- Wiriaadiputri, Pramestika Aringgamutia. 2012. *Studi Perbandingan Total Suspended Particulate (TSP) di Dalam dan Luar Ruang Kelas (Studi Kasus: Sekolah Dasar Negeri Pondokcina 1 Depok)*. Skripsi. Depok: Universitas Indonesia.
- Wu, C., Huang, X. H., Ng, W. M., Griffith, S. M., & Yu, J. Z. 2016. Inter-comparison of NIOSH and IMPROVE protocols for OC and EC determination: implications for inter-protocol data conversion. *Atmospheric Measurement Techniques*. 9(9): 4547-4560.
- Zakaria, Rasdiana. 2020. A Study of Assessment and Mapping of Carbon Footprints to Campus Activities in Hasanuddin University Faculty of Engineering. *IOP Conf. Ser.: Mater. Sci. Eng.* 875 012-023.

## **LAMPIRAN**



**LAMPIRAN 1: Data Metereologi**

<b>Data Metereologi</b>				
<b>Titik A   Selasa, 29 Maret 2022   Waktu: 07.07-08.07   Interval Pagi   Cuaca: Cerah</b>				
<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
758.625	27.4	77	1.9	176
758.775	27.4	76	1	171
758.7	27.4	76	1.6	182
758.7	27.4	76	0.9	189
758.85	27.3	78	1.2	197
758.925	26.9	81	1	209
758.925	26.5	82	1	228
758.85	26.4	83	1.2	189
759	26.4	83	0.7	200
758.85	26.3	84	1.2	223
758.85	26.3	84	2	189
758.925	26.3	84	1.6	201
759	26.3	84	1.1	218
759.075	26.3	85	0.7	202
759	26.4	85	0.7	218
759.075	26.4	84	0.9	232
758.925	26.5	85	1.2	220
759	26.5	85	1.7	212
759	26.9	85	2.2	205
758.925	26.9	85	1.2	199

<b>Data Metereologi</b>				
<b>Titik A   Selasa, 29 Maret 2022   Waktu: 08.40-09.40   Interval Pagi   Cuaca: Cerah</b>				
<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.075	28.7	75	1.3	152
759	28.7	75	0.9	180
759	29.1	74	2	159
759.075	29.5	73	1.6	176
759.225	29.8	72	1.4	30
759.15	30.4	69	1.2	154
759.075	30.6	66	1.9	180
759.225	30.8	65	1.1	191
759.15	30.9	65	1.2	176
759.3	30.9	64	1.5	165
759.375	30.9	62	1.5	170
759.375	31.1	61	1.2	171
759.45	31.1	62	1.7	143
759.3	31.1	62	1.9	196
759.375	31.2	61	3	161
759.3	31.2	61	1.5	198
759.45	31.3	62	1.6	195

759.675	31.2	61	2	184
759.6	31.2	61	0.9	191
759.6	31.1	61	1.8	225
<b>Data Metereologi</b>				
<b>Titik A   Selasa, 29 Maret 2022   Waktu: 10.08-11.08   Interval Pagi   Cuaca: Cerah</b>				
<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.375	30.4	68	1.6	166
759.225	30.6	68	1.5	165
759.3	30.9	65	0.8	164
759.3	31.3	64	1.1	181
759.225	31.7	63	1.4	173
759.225	31.9	60	1.2	162
759.225	32.1	60	1.8	221
759.225	32.3	59.6	0.8	162
759.15	32.4	59	1.1	209
759.225	32.5	60	1.1	210
759.15	32.5	61	0.7	205
759.075	32.6	60	1	196
759.075	32.5	60	0.9	235
759.15	32.1	62	0.8	226
759.15	31.9	66	1.5	242
759	31.6	65	1.3	173
759.075	31.5	66	0.9	197
758.85	31.3	69	0.8	278
758.925	31.3	69	1.2	186
758.925	31.3	70	0.7	208
<b>Data Metereologi</b>				
<b>Titik A   Selasa, 29 Maret 2022   Waktu: 12:08-13:08   Interval Siang   Cuaca: Cerah</b>				
<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
758.475	33.2	56	0	240
758.475	33.3	58	0	241
758.55	33.3	58	0.9	345
758.4	33.3	56	1.7	41
758.4	33.4	54	0.8	301
758.4	33.5	55	0	259
758.4	33.7	56	0	229
758.325	33.7	56	0	224
758.4	33.7	55	0.8	227
758.325	33.7	56	1	113
758.325	33.9	57	0.8	281
758.175	33.9	56	0.7	179
758.25	33.9	55	1.2	255
758.025	33.9	54	1.1	171
757.875	34.1	58	2.1	205

757.8	34.2	54	0.9	201
758.025	34.2	55	0	198
757.8	33.9	56	1.1	262
757.725	33.9	56	1.1	226
757.875	33.9	57	0.8	235

**Data Metereologi**

**Titik A | Selasa, 29 Maret 2022 | Waktu: 13.43-14.43 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.875	33.4	58	1.2	271
758.025	33.1	58	1	265
757.875	32.9	59	0.1	126
757.95	32.9	57	0.8	293
757.95	33.1	57	1	319
758.025	33	57	0.1	283
757.95	33.1	58	0	275
758.1	33.1	57	1.5	304
757.875	33.1	61	0.9	244
757.875	33	63	1.2	229
757.875	32.9	62	1.6	245
757.65	32.7	61	0.9	269
757.725	32.7	61	0.7	219
757.725	32.7	64	0.7	233
757.5	32.5	65	1	219
757.575	32.3	64	1.4	297
757.5	32.1	66	0.7	271
757.5	31.7	69	0.9	229
757.5	31.6	69	2.4	56
757.575	31.3	67	1	254

**Data Metereologi**

**Titik A | Selasa, 29 Maret 2022 | Waktu: 15.05-16.05 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.65	31.3	64	1.9	240
757.65	31.3	67	1.2	205
757.575	31.7	67	1.3	250
757.65	30.7	68	0.8	263
757.65	30.2	70	0	225
757.575	29.8	73	1.4	168
757.65	29.6	75	2	215
757.65	29.5	77	1.7	22
757.8	29.3	78	1	180
757.65	29	80	0.8	202
757.725	28.8	83	1.2	193
757.725	28.7	83	0.9	265
757.65	28.5	84	0.9	261

757.65	28.5	85	0.8	196
757.65	28.5	86	0.9	208
757.575	28.5	86	0.9	198
757.425	28.6	87	2.1	215
757.5	28.6	85	1.9	188
757.575	28.8	84	1.2	191
757.65	28.8	84	2.3	184

**Data Metereologi**

**Titik A | Selasa, 29 Maret 2022 | Waktu: 16.33-17.33 | Interval Sore/Malam |  
Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.575	29.1	76	0	185
757.575	29.1	76	0.1	192
757.8	29	79	0.8	180
757.95	28.7	80	1.7	191
757.8	28.5	82	1.2	150
757.875	28.4	83	0.7	170
757.875	28.2	82	1.6	195
757.725	28.1	82	1.2	158
757.725	28	82	1.9	167
757.725	27.9	81	1.3	182
757.725	27.9	81	2.3	143
757.725	27.7	81	1.7	154
757.575	27.7	82	1.1	183
757.725	27.7	82	0.7	144
757.65	27.7	82	1.5	214
757.65	27.7	83	1.9	131
757.65	27.7	83	1.1	127
757.575	27.6	83	0.9	132
757.65	27.6	83	2	141
757.65	27.6	83	1.7	143

**Data Metereologi**

**Titik A | Selasa, 29 Maret 2022 | Waktu: 18.00-19.00 | Interval Sore/Malam |  
Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.575	28.6	77	1.2	757.575
757.575	28.4	77	1.7	757.575
757.65	28.2	79	1.4	757.65
757.65	27.9	79	1.2	757.65
757.5	27.6	80	1.1	757.5
757.575	27.4	80	1.9	757.575
757.575	27.3	81	0.9	757.575
757.5	27.1	82	1.2	757.5
757.5	27	84	1.3	757.5
757.575	26.5	85	1.6	757.575
757.65	26.9	86	1.6	757.65

757.575	26.9	85	1.8	757.575
757.65	26.9	85	1.1	757.65
757.725	26.9	86	1	757.725
757.65	26.9	85	1.3	757.65
757.725	26.9	86	1.2	757.725
757.65	26.9	87	1.4	757.65
757.8	26.9	88	1.4	757.8
757.725	26.9	88	0.9	757.725
757.725	26.5	88	1.5	757.725

**Data Metereologi**

**Titik A | Selasa, 29 Maret 2022 | Waktu: 19.25-20.25 | Interval Sore/Malam | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
758.25	28.5	77	4.3	758.25
758.1	28.6	76	5	758.1
758.025	28.6	75	4.5	758.025
758.175	28.8	75	3.8	758.175
758.25	29	74	5.4	758.25
758.175	29.1	73	4.3	758.175
758.4	29	73	6.6	758.4
758.4	28.9	75	2.8	758.4
758.475	29	74	4.5	758.475
758.475	28.6	75	3.1	758.475
758.4	28	77	4.7	758.4
758.4	27.9	77	6.5	758.4
758.475	27.6	78	6.5	758.475
758.55	27.3	79	4.7	758.55
758.55	27.3	79	3.1	758.55
758.7	27.1	81	5.2	758.7
758.7	26.9	83	6.9	758.7
758.85	26.9	84	4.3	758.85
759	26.5	84	2.9	759
758.925	26.5	84	0.3	758.925

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 07.18-08.18 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.225	27.9	73	0.9	321
759.225	27.9	73	0.8	320
759.225	27.9	73	1.1	302
759.3	28	74	1	296
759.525	28.2	75	0.7	297
759.375	28.2	76	1	305
759.3	28.2	76	1.1	293
759.525	28.1	75	0.9	321

759.525	28.1	74	1.5	329
759.45	28.1	74	0.8	302
759.45	28.1	74	1	276
759.6	28.6	75	1	335
759.6	28.6	75	1	302
759.45	28.6	75	1.2	18
759.45	28.7	74	0.4	324
759.6	28.9	74	0.7	284
759.525	29.6	71	0.9	40
759.675	29.7	72	1.2	325
759.6	29.7	71	1.2	321
759.45	29.9	71	1.3	325

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 08.42-09.42 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.9	31.5	67	1.2	321
759.9	31.7	62	1.6	329
759.975	31.9	61	1	351
759.825	32.1	59	1.2	307
759.9	32.5	56	1.4	224
760.05	32.7	55	1.5	315
759.975	33.1	54	1.2	305
759.975	33.3	54	1	295
759.975	33.5	54	1.4	320
760.125	33.7	54	1.3	290
759.975	33.9	53	1	291
760.125	33.9	54	1.1	293
760.05	33.9	54	1.3	298
760.05	34.1	52	1.8	290
760.05	34.2	52	1	296
760.05	34.2	53	0.9	301
760.05	34.2	53	1	314
760.125	34.3	53	1	298
760.2	34.3	53	1.4	273
760.2	34.2	52	1	290

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 09.59-10.59 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
760.2	34.6	52	0.9	760.2
760.05	34.6	51	0.7	760.05
760.125	34.6	52	1	760.125
760.05	34.6	52	1.3	760.05
759.975	34.6	52	1.8	759.975
759.9	34.6	52	1.3	759.9
759.9	34.5	53	1.5	759.9
759.825	34.6	53	1.1	759.825

759.825	34.6	52	1	759.825
759.825	34.8	51	1.1	759.825
759.75	34.9	51	1.1	759.75
759.75	35.2	51	1.8	759.75
759.6	35.3	52	2.2	759.6
759.75	35.4	51	1.4	759.75
759.6	35.6	50	2.9	759.6
759.45	35.6	50	1.5	759.45
759.45	35.8	49	1.6	759.45
759.525	35.8	46	2.1	759.525
759.45	35.8	49	1.7	759.45
759.45	36	49	2.7	759.45

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 12.06-13.06 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
758.475	41.7	34	1.4	280
758.475	41.3	34	1.2	265
758.475	41.2	34	2	308
758.4	40.6	35	3.2	306
758.4	40.1	36	1.7	286
758.325	39.9	37	1.9	291
758.325	39.8	38	1.1	279
758.325	39.8	37	2.9	293
758.175	39.8	36	1	300
758.175	39.8	38	1.5	280
758.25	39.8	39	2	315
758.25	39.8	37	1.5	323
758.175	40	40	1.4	312
757.95	40.7	40	1.8	303
758.025	41.9	35	0.9	299
758.1	42.7	34	0.7	310
758.025	43.4	34	0.8	20
758.025	43.4	35	1.5	25
757.95	43.4	33	1.2	294
757.875	43.4	33	1.3	291

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 13.35-14.45| Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.425	42.3	31	1.4	298
757.425	42.3	30	0.9	311
757.5	42.3	31	1.6	289
757.425	42	32	1.4	291
757.35	41.9	34	0.8	285
757.35	41.7	34	2.3	314

757.425	41.6	33	1.9	297
757.425	41.5	33	1.6	324
757.2	41.5	34	1.7	303
757.35	41.4	34	0.8	286
757.125	41.4	34	1.8	289
757.2	41.4	33	15	273
757.05	41.3	32	1.4	298
756.825	41.3	33	0.9	304
756.975	41.4	33	1.7	309
756.75	41.4	35	0.9	315
756.825	41.4	33	1	298
756.75	41	32	2	256
756.975	40.7	37	2.3	309
756.6	40.1	40	2	312

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 15.15-16.15 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
756.675	35.5	50	0.7	296
756.75	35.5	50	0.9	25
756.675	35.5	52	0.6	248
756.675	35.5	53	0.8	300
756.825	35.5	52	0.7	295
756.75	35.5	52	0.8	205
756.75	35.5	51	0.7	196
756.6	35.7	53	0.9	277
756.675	35.7	51	0.9	266
756.825	35.9	52	0.5	252
756.675	36	51	0.7	183
756.825	35.9	52	1.1	300
756.825	36.1	50	0.8	275
756.6	36	51	0.7	10
756.9	36	50	0.9	296
756.825	35.9	51	0.7	294
756.9	35.8	51	0.9	274
756.825	35.9	51	0.9	255
756.825	35.6	51	0.8	310
756.75	35.6	52	0.7	295

**Data Metereologi**

**Titik B | Rabu, 30 Maret 2022 | Waktu: 18.10-19.10 | Interval Sore/Malam | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.8	30.4	68	1.7	276
757.875	30.4	68	2	306
757.95	30.2	71	2.2	280
757.95	30.1	70	1.4	285



758.025	29.9	71	2.1	292
758.1	29.9	71	1.9	278
757.95	29.7	72	1.9	297
758.025	29.7	72	2.4	273
758.1	29.6	71	2.1	269
758.025	29.7	71	1.7	292
757.95	29.7	71	2.4	281
757.875	29.7	71	1.7	283
758.175	29.7	71	1.9	303
758.25	29.7	71	1.8	282
758.025	29.7	71	2	263
757.95	29.7	71	2.7	316
758.1	29.7	72	2.4	254
758.175	29.7	72	1.3	291
758.175	29.8	71	1.8	204
758.25	29.8	71	1.9	300

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 07.10-08.10 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
758.925	28.2	75	0.7	54
758.85	28.4	75	1.9	282
758.85	28.5	75	2.1	139
759	28.6	75	1.7	195
759	28.7	74	0.9	300
759	29	74	0.1	58
758.925	29.1	74	0.8	264
759.15	29.3	73	1.2	339
758.925	29.3	74	0.9	294
759.075	29.5	73	1.1	195
759	29.5	72	2.3	247
759.075	29.6	71	2	52
759.225	29.8	72	1.4	154
759.225	29.9	70	1.4	128
759.3	29.9	70	1.2	249
759.225	30	68	1.2	161
759.375	30.1	67	1	149
759.375	30.2	67	0.8	74
759.3	30.4	67	0.7	252
759.375	30.5	68	1.1	160

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 08.35-09.35 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.3	30.9	63	0.8	135
759.375	31.1	64	0.7	256

759.375	31.3	63	2.2	157
759.45	31.7	61	0.7	266
759.525	31.9	65	0.8	150
759.525	32.4	59	1.3	299
759.525	32.6	58	0.8	172
759.6	32.9	60	0.1	87
759.375	33.5	57	1.2	225
759.6	34	57	0.9	155
759.45	34.2	56	0.7	242
759.525	34.5	55	0.8	73
759.45	34.5	59	1.1	260
759.3	34.3	54	1.4	301
759.375	34.2	54	0.7	341
759.3	34.5	55	0.8	88
759.3	34.7	55	0.6	93
759.375	34.9	57	0.8	70
759.45	35	59	0.7	145
759.375	35	61	1.1	99

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 09.55-10.55 | Interval Pagi | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
759.225	34.6	51	0.9	88
759.075	34.6	52	1.1	227
759.15	34.8	52	1.3	214
759.15	35.4	50	0.8	68
759.075	35.4	51	1	131
759.075	35.6	50	1.6	311
759.075	35.8	50	1	17
759.075	36.3	50	0.7	238
758.7	36.3	49	0.8	72
758.925	36.5	50	0.9	89
758.7	36.3	50	0.7	73
758.775	36.3	49	1.9	54
758.625	36.4	47	0.8	310
758.85	36.7	52	2.2	129
758.85	36.8	51	1.4	322
758.925	37	48	1.5	313
758.775	37	52	1.9	264
758.775	37.2	43	0.9	115
758.775	37.2	45	1.6	248
758.7	37.2	51	1.4	221

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 12.10-13.10 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
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757.8	37.7	48	1.8	292
757.875	37.7	48	1.9	279
757.8	37.7	48	1.4	288
757.8	37.7	48	0.7	321
757.8	37.4	49	1.5	308
757.725	37.4	48	0.8	291
757.5	37.4	47	2.2	277
757.5	37.4	46	3.2	295
757.5	37.2	47	1.8	350
757.5	37.1	41	2	314
757.5	37.2	48	1.5	305
757.5	37.4	46	1.4	326
756.75	38	47	2.8	276
757.275	38	45	2.2	262
757.275	37.7	45	1.1	292
757.2	37.4	48	0.7	294
757.275	37.7	48	1.7	275
757.275	37.7	49	1.7	285
757.35	36.5	51	1.5	272
757.2	36.4	50	2.1	259

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 13.40-14.40 | Interval Siang | Cuaca: Cerah**

<b>Tekanan Udara (mmHg)</b>	<b>Temperatur Udara (°C)</b>	<b>Kelembaban Udara (Rh)</b>	<b>Kecepatan Angin (m/s)</b>	<b>Arah Angin</b>
757.05	36.3	51	1.4	329
756.75	35.6	55	1.6	313
756.825	35.7	55	1.5	330
756.825	35.7	54	1.7	59
756.825	36	51	1.4	314
756.9	36	51	1.1	329
756.825	36	51	0.7	312
756.825	35.8	53	1.2	344
756.6	35.8	53	1.2	341
756.75	35.8	53	0.7	46
756.6	35.8	54	0.8	78
756.6	36	53	0.8	22
756.525	35.8	54	0.7	104
756.45	35.7	53	0.8	12
756.6	35.6	53	0.8	29
756.675	35.5	54	0.9	6
756.375	35.2	54	1.7	328
756.375	35	55	1	328
756.3	34.7	56	1.4	3
756.375	34.2	57	2	329

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 15.00-16.00 | Interval Siang | Cuaca: Cerah**

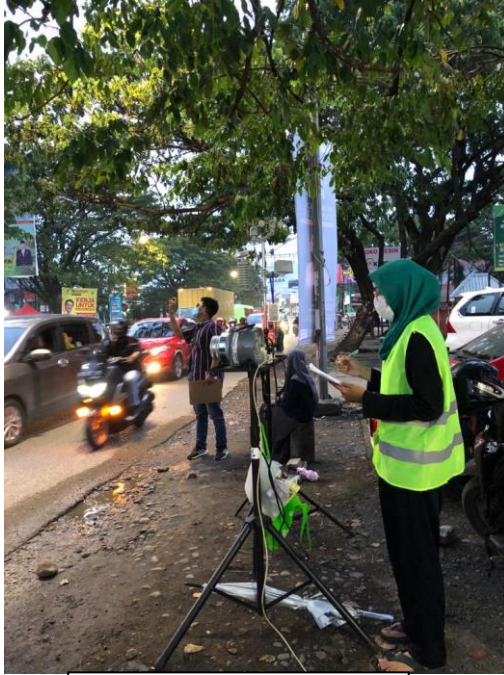
Tekanan Udara (mmHg)	Temperatur Udara (°C)	Kelembaban Udara (Rh)	Kecepatan Angin (m/s)	Arah Angin
756.6	32.5	61	0.5	331
756.6	32.3	62	0.8	313
756.525	32.2	62	1.2	288
756.525	32.1	62	0.5	214
756.675	32	62	0.7	165
756.75	31.9	62	1.1	177
756.75	31.7	62	0.9	220
756.75	31.5	63	2.2	179
756.675	31.1	61	1.6	194
756.675	31.1	61	1.1	183
756.675	30.7	63	0.8	357
756.675	30.4	64	1.2	85
756.45	30.2	65	0.7	118
756.45	30.1	66	1.1	330
756.525	29.9	68	0.8	233
756.525	29.9	69	0.5	256
756.675	29.8	69	1.1	252
756.675	29.7	70	0.9	282
756.675	29.7	70	0.7	27
756.75	29.7	70	1	237

**Data Metereologi**

**Titik C | Kamis, 31 Maret 2022 | Waktu: 19.15-20.15 | Interval Sore/Malam | Cuaca: Cerah**

Tekanan Udara (mmHg)	Temperatur Udara (°C)	Kelembaban Udara (Rh)	Kecepatan Angin (m/s)	Arah Angin
757.8	27.4	79	1.2	10
757.65	27.4	80	1.1	155
757.725	27.4	81	0.7	63
757.725	27.7	81	1.1	269
757.8	27.9	81	0.8	313
757.65	28	81	1.7	81
757.725	28.2	80	1.2	152
757.8	28.2	78	1.5	154
757.8	28.2	78	1.2	173
757.95	28.2	78	0.8	236
757.95	28.2	78	1.6	66
757.95	28.1	78	1	267
758.025	28	78	0.5	43
758.025	27.9	78	0.7	62
758.1	27.9	78	0.8	32
758.1	27.7	78	0.6	42
758.175	27.7	79	0.8	120
758.175	27.7	79	0.7	130
758.175	27.6	79	0.5	295
758.25	27.6	79	0.6	127

## LAMPIRAN 2: Dokumentasi Penelitian



Pengukuran di Titik A



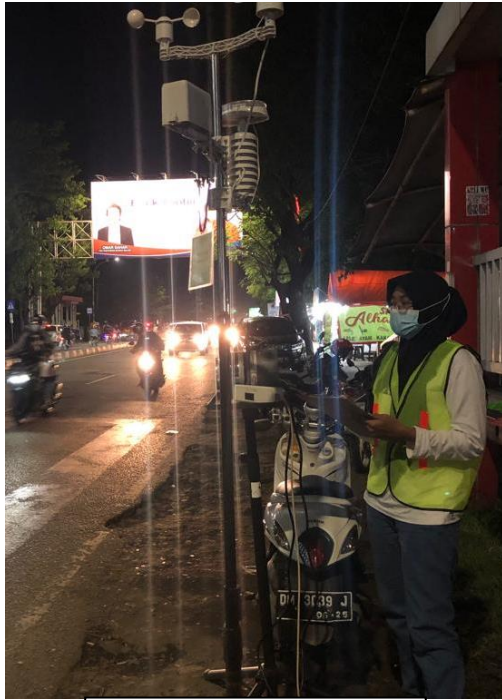
Suasana Pengukuran di Titik A



Pengukuran di Titik B



Suasana Pengukuran di Titik B



Pengukuran di Titik C



Suasana Pengukuran di Titik C

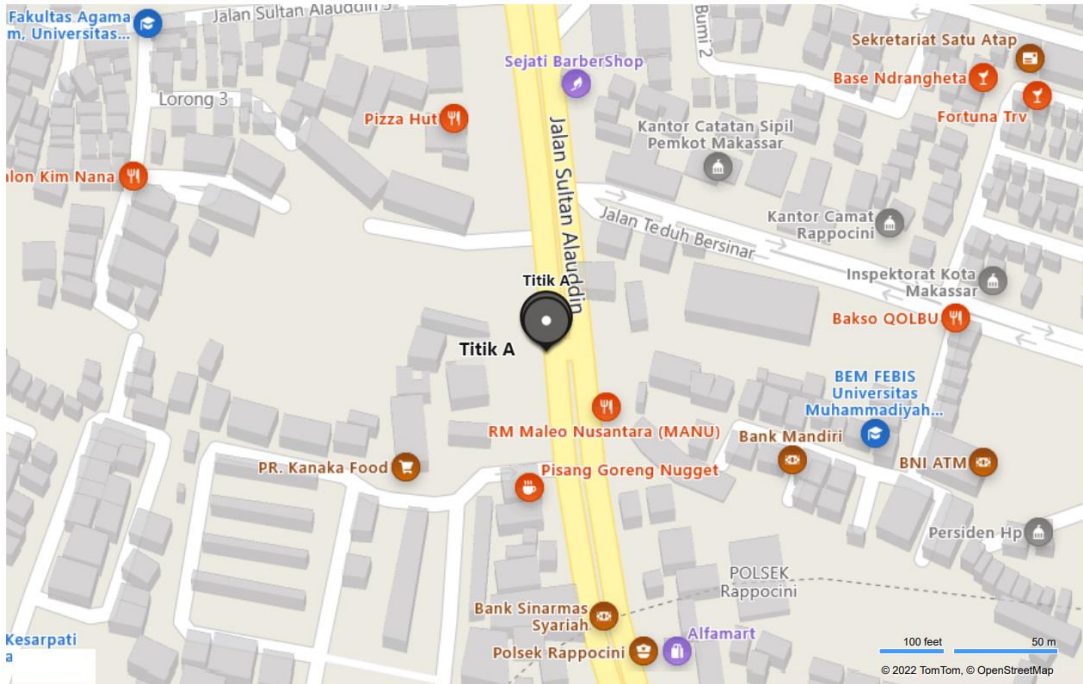


Contoh sampel pengukuran di Titik A pada Interval Sore/Malam

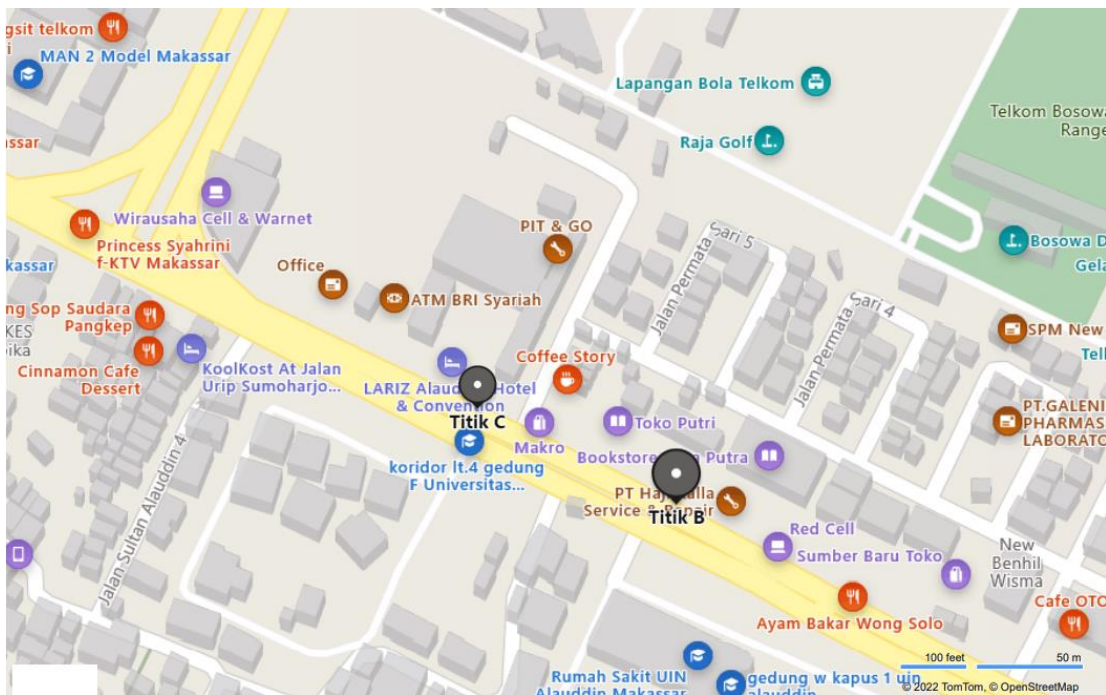


Analisis Komponen Karbon di Kanazawa University

### LAMPIRAN 3: Peta Lokasi Titik Pengukuran



Peta Lokasi Pengukuran Titik A



Peta Lokasi Pengukuran Titik B dan Titik C



#### LAMPIRAN 4: Kondisi Lokasi Titik Pengukuran



Kondisi lokasi pengukuran Titik A



Kondisi lokasi pengukuran Titik B



Kondisi Lokasi pengukuran Titik C

### LAMPIRAN 5: Tabel Hasil Analisis Karbon

OC1 (µg/m3)	OC2 (µg/m3)	OC3 (µg/m3)	OC4 (µg/m3)	PyOC (µg/m3)	EC1 (µg/m3)	EC2 (µg/m3)	EC3 (µg/m3)	Titik	OC (µg/m3)	EC (µg/m3)	TC (µg/m3)	Char-EC (µg/m3)	Soot-EC (µg/m3)
0.06	8.54	9.05	2.91	5.02	5.75	6.52	2.29	A	25.57	9.55	35.12	0.74	8.81
0.00	8.43	13.41	4.59	9.28	9.08	10.11	3.37		35.71	13.28	48.98	-0.20	13.47
-0.01	4.01	8.23	2.97	9.43	7.38	6.34	1.49		24.63	5.78	30.41	-2.05	7.82
-0.02	1.74	3.99	1.54	3.60	3.56	1.90	0.16		10.84	2.02	12.86	-0.04	2.06
-0.02	1.57	1.49	0.59	0.30	1.16	0.33	-0.07		3.93	1.12	5.05	0.86	0.26
-0.02	1.15	2.19	1.05	1.07	1.97	0.75	-0.01		5.44	1.64	7.08	0.90	0.74
0.04	6.04	8.04	2.88	5.01	6.41	6.84	1.36		22.01	9.61	31.61	1.40	8.21
0.06	8.48	12.11	4.51	7.99	9.29	11.26	2.97		33.16	15.53	48.69	1.30	14.23
0.08	11.61	16.78	5.97	9.78	10.55	14.37	4.29		44.22	19.43	63.65	0.77	18.66
0.03	6.54	9.49	3.21	3.93	5.39	6.94	1.37	B	23.19	9.78	32.97	1.47	8.31
0.02	5.81	7.92	2.82	2.80	4.71	6.57	0.97		19.37	9.45	28.82	1.91	7.54
-0.03	6.62	11.15	3.55	4.54	6.01	8.33	1.14		25.83	10.94	36.77	1.47	9.47
-0.01	3.52	5.90	2.29	2.54	3.93	4.92	0.75		14.24	7.07	21.31	1.40	5.67
0.01	4.70	5.77	2.23	3.02	3.74	4.86	0.79		15.73	6.37	22.11	0.72	5.65
0.04	7.69	12.14	4.28	3.71	5.80	9.20	2.09		27.86	13.39	41.25	2.10	11.29
0.03	10.75	16.97	5.94	4.58	7.58	12.22	2.62		38.26	17.85	56.11	3.01	14.84
0.02	7.33	10.50	3.29	4.33	5.54	5.81	1.21	C	25.48	8.23	33.71	1.21	7.02
0.00	3.82	7.30	2.70	4.49	4.78	4.77	0.75		18.31	5.82	24.13	0.29	5.53
0.00	3.84	6.15	2.30	3.04	3.97	4.64	0.78		15.34	6.35	21.69	0.93	5.42
-0.02	2.86	4.92	1.88	2.83	3.33	3.79	0.37		12.48	4.67	17.15	0.51	4.16
-0.01	1.97	3.40	1.38	2.44	2.47	2.32	0.16		9.18	2.51	11.69	0.03	2.48
0.01	5.48	8.52	3.08	3.45	5.09	6.33	1.37		20.55	9.34	29.89	1.64	7.70
-0.02	4.95	9.33	3.18	4.20	5.38	5.89	0.99		21.64	8.06	29.70	1.18	6.88