



DAFTAR PUSTAKA

- Atkins, P. W., Overton, T.L., Rourke, J.P., Weller, M.T., and Armstrong, F.A., 2010, *Shriver and Atkins Inorganic Chemistry*, Fifth Edition, Oxford University Press, Great Britain.
- Baikie, T., Fang, Y. N., Kadro, J. M., Schreyer, M., Wei, F. X., Mhaisalkar, S. G., Grätzel, M., and White, T. J., 2013, Synthesis and crystal chemistry of the hybrid perovskite (CH₃NH₃)PbI₃ for solid-state sensitized solar cell applications, *J. Mater. Chem. A*, 1, 5628-5641.
- Barbe', C. J., Arendse, F., Comte, P., Jirousek, M., Lenzmann, F., Shklover, V., and Grätzel, M., 1997, Nanocrystalline Titanium Oxide Electrodes for Photovoltaic Applications, *J. Am. Ceram. Soc.*, 80, 12, 3157–3171.
- Bi, D., Moon, S. J., Häggman, L., Boschloo, G., Yang, L., Johansson, E. M. J., Nazeeruddin, M. K., Grätzel, M., and Hagfeldt, A., 2013, Using a two-step deposition technique to prepare perovskite (CH₃NH₃PbI₃) for thin film solar cells based on ZrO₂ and TiO₂ mesostructures, *RSC Advances*, 3, 18762.
- Burschka, J., Pellet, N., Moon, S. J., Humphry-Baker, R., Gao, P., Nazeeruddin, M. K., and Grätzel, M., 2013, Sequential Deposition as a Route to High-Performance Perovskite-Sensitized Solar Cells, *Nature*, 2013, 499, 316–319.
- Chiba, Y., Islam, A., Watanabe, Y., Komiya, R., Koide, N., and Han, L. Y., 2006, Dye-Sensitized Solar Cells with Conversion Efficiency of 11.1%, *Jpn. J. Appl. Phys.*, 45, 638.
- Christians, J. A., Fung, R. C. M., and Kamat, P. V., 2014, An Inorganic Hole Conductor for Organo-Lead Halide Perovskite Solar Cells. Improved Hole Conductivity with Copper Iodide, *J. Am. Chem. Soc.*, 136, 758–764.
- Dualeh, A., Tétreault, N., Moehl, T., Gao, P., Nazeeruddin, M. K., and Grätzel, M., 2014, Effect of annealing temperature on film morphology of organic-inorganic hybrid pervoskite solid-state solar cells. *Adv. Funct. Mater.*, 24, 3250–3258.
- Durrant, J.R., Tachibana, Y., Mercer, I., Moser, J.E., Grätzel, M., and Klug, D.R., 1999, The excitation wavelength and solvent dependence of the kinetics of electron injection in Ru(dcbpy)₂(NCS)₂ sensitized nanocrystalline TiO₂ films, *Z. Phys. Chem.*, 212, 93-98.
- Etgar, L., Gao, P., Xue, Z., Peng, Q., Chandiran, A. K., Liu, B., Nazeeruddin, M. K., and Grätzel, M., 2012, Mesoscopic CH₃NH₃PbI₃/TiO₂ heterojunction solar cells, *J. Am. Chem. Soc.*, 134, 17396–17399.



Ganose, A. M., Savory, C. N., and Scanlon, D. O., 2017, Beyond methylammonium lead iodide: prospects for the emergent field of ns² containing solar absorbers, *Chem. Commun.*, 53, 20-44.

Gao, F., Wang, Y., Shi, D., Zhang, J., Wang, M., Jing, X., Humphry-Baker, R., Wang, P., Zakeeruddin, S. M., and Grätzel, M., 2008, Enhance the optical absorptivity of nanocrystalline TiO₂ film with high molar extinction coefficient ruthenium sensitizers for high performance dye-sensitized solar cells, *J. Am. Chem. Soc.*, 130, 10720–10728.

Grätzel, M., 2014, The light and shade of perovskite solar cells, *Nat. Mater.*, 13, 838-842.

Habibi, M., Zabihi, F., Ahmadian-Yazdi, M. R., and Eslamian, M., 2016, Progress in emerging solution-processed thin film solar cells – Part II : Perovskite solar cells, *Renew. Sust. Energ. Rev.*, 62, 1012–1031.

Hagfeldt, A., and Grätzel, M., 1995, Light-Induced Redox Reactions in Nanocrystalline Systems, *Chem. Rev.*, 95, 49-68.

Johansson, M. B., Edvinsson, T., Bitter, S., Eriksson, A. I. K., Johansson, E. M. J., Gothelid, M., and Boschloo, G., 2016, From Quantum Dots to Micro Crystals: Organolead Triiodide Perovskite Crystal Growth from Isopropanol Solution, *ECS J. Solid State Sci. Technol.*, 5, 614-620.

Im, J. H., Kim, H. S., and Park, N. G., 2014, Morphology-photovoltaic property correlation in perovskite solar cells: One-step versus two-step deposition of CH₃NH₃PbI₃, *APL Materials*, 2, 081510.

Im, J. H., Lee, C. R., Lee, J. W., Park, S. W., and Park, N. G., 2011, 6.5% efficient perovskite quantum-dot-sensitized solar cell, *Nanoscale*, 3, 4088.

Kim, H.S., Mora-Sero, I., Gonzalez-Pedro, V., Fabregat-Santiago, F., Juarez-Perez, E. J., Park, N. G., and Bisquert, J., 2013, Mechanism of carrier accumulation in perovskite thin-absorber solar cells, *Nat. Commun.*, 4, 2242.

Kartini, I., 2004, Synthesis and Characterisation of Mesostructured Titania for Photoelectrochemical Solar Cells, *Thesis*, Australia Research Council Centre for Functional Nanomaterials The University of Queensland, Brisbane.

Kartini, I., Menzies, D., Blake, D., da Costa, J. C. D., Meredith, P., Riches, J. D., and Lu, G. Q., Hydrothermal seeded synthesis of mesoporous titania for application in dye-sensitised solar cells (DSSCs), *J. Mater. Chem.*, 2004, 14, 2917 – 2921.

Kim, H. S., Lee, C. R., Im, J. H., Lee, K. B., Moehl, T., Marchioro, A., Moon, S. J., Humphry-Baker, R., Yum, J. H., Moser, J. E., Grätzel, M., and Park, N.



- G., 2012, Lead Iodide Perovskite Sensitized All-Solid-State Submicron Thin Film Mesoscopic Solar Cell with Efficiency Exceeding 9%, *Nat. Sci. Rep.*, 2, 591.
- Kojima, A., Teshima, K., Shirai, Y., and Miyasaka, T., 2009, Organometal Halide Perovskites as Visible-Light Sensitizers for Photovoltaic Cells, *J. Am. Chem. Soc.*, 131, 6050.
- Ku, Z., Rong, Y., Xu, M., Liu, T., and Han, H., 2013, Full Printable Processed Mesoscopic CH₃NH₃PbI₃/TiO₂ Heterojunction Solar Cells with Carbon Counter Electrode, *Sci. Rep.*, 3, 3132.
- Lee, J. W., Lee, T., Yoo, P., J., Grätzel, M., Mhaisalkard, S., and Park, N. G., 2014, Rutile TiO₂-based perovskite solar cells, *J. Mater. Chem. A*, 2, 9251.
- Leijtens, T., Eperon, G.E., Pathak, S., Abate, A., Lee, M. M., and Snaith H. J., 2013, Overcoming ultraviolet light instability of sensitized TiO₂ with meso-superstructured organometal tri-halide perovskite solar cells, *Nat. Commun.*, 4, 2885.
- Leijtens, T., Lauber, B., Eperon, G. E., Stranks, S. D., and Snaith, H. J., 2014, The Importance of Perovskite Pore Filling in Organometal Mixed Halide Sensitized TiO₂ Based Solar Cells, *J. Phys. Chem. Lett.*, 5, 1096-1102.
- Li, H., Li, S., Wang, Y., Sarvari, H., Zhang, P., Wang, M., and Chen, Z., 2016, A modified sequential deposition method for fabrication of perovskite solar cells, *Solar Energy*, 126, 243-251.
- Liu, M., Johnston, M.B., and Snaith, H.J., 2013, Efficient planar heterojunction perovskite solar cells by vapour deposition, *Nat. Commun.*, 501, 395-398.
- Marchioro, A., Teuscher, J., Friedrich, D., Kunst, M., Van de Krol, R., Moehl, T., Grätzel, M., and Moser, J.E., 2014, Unravelling the mechanism of photoinduced charge transfer processes in lead iodide perovskite solar cells, *Nat. Photonics*, 8, 250-255.
- McCreery, R. L., 2008, Advanced Carbon Electrode Materials for Molecular Electrochemistry, *Chem. Rev.*, 108, 7, 2646-2687.
- Miyasaka, T., 2015, Perovskite Photovoltaics: Rare Functions of Organo Lead Halide in Solar Cells and Optoelectronic Devices, *Chem. Lett.*, 44, 720-729.
- Niu, G., Li, W., Meng, F., Wang, L., Dong, H., and Qiu, Y., 2014, Study on the stability of CH₃NH₃PbI₃ films and the effect of post-modification by aluminum oxide in all-solid-state hybrid solar cells, *J. Mater. Chem. A*, 2, 705-710.
- O'Regan, B., and Grätzel, M., 1991, A low-cost, high-efficiency solar cell based on dye-sensitized colloidal TiO₂ films, *Nature*, 353, 737-739.



- Park, N. G., 2015, Perovskite solar cells: an emerging photovoltaic technology, *Materials Today*, 18, 2, 65-72.
- Park, N.G., van de Lagemaat, J., and Frank, A. J., 2000, Comparison of Dye-Sensitized rutile- and Anatase-Based TiO₂ Solar Cells, *J. Phys. Chem.*, 104: p, 8989-8994.
- Rahimi, F., Bebeau, J., Matar, O., and Takshi, A., 2017, Photo-electrochemical characterization of CH₃NH₃PbI₃ Perovskite deposited on ZnO and TiO₂ mesoporous structures during its dynamic restoration, *J. Appl. Electrochem.*, 47, 3, 1-9.
- Rini, M., Tobey, R., Dean, N., Itatani, J., Tomioka, Y., Tokura, Y., Schoenlein, R. W., and Cavalleri, A., 2007, Control of the electronic phase of a manganite by mode-selective vibrational excitation, *Nature*, 449, 72-74.
- Sepalage, A. G., Meyer, S., Pascoe, A., Scully, A. D., Huang, F., Bach, U., Cheng, Y. B., and Spiccia, L., 2015, Copper(I) Iodide as Hole-Conductor in Planar Perovskite Solar Cells: Probing the Origin of J – V Hysteresis, *Adv. Funct. Mater.*, 25, 5650–5661.
- Shannon, R. D., 1976, Revised effective ionic radii and systematic studies of interatomic distances in halides and chalcogenides, *Acta Crystallogr. A*, 32, 751-767.
- Singh, R. K., Kumar, R., and Singh, J., 2017, Effect of precursors ratio on crystallinity and thermal stability of CH₃NH₃PbI₃, *AIP Conference Proceedings*, 1832, 050056.
- Stranks, S. D., Eperon, G. E., Grancini, G., Menelaou, C., Alcocer, M. J., Leijtens, T., Herz, L. M., Petrozza, A., and Snaith, H.J., 2013, Electron-hole diffusion lengths exceeding 1 micrometer in an organometal trihalide perovskite absorber, *Science*, 342, 341–344.
- Stoumpos, C. C., Malliakas, C. D., and Kanatzidis, M. G., 2013, Semiconducting Tin and Lead Iodide Perovskites with Organic Cations: Phase Transitions, High Mobilities, and Near-Infrared Photoluminescent Properties, *Inorg. Chem.*, 52, 9019–9038.
- Takahashi, K., and Suzuki, Y., 2017, Perovskite solar cells with CuI inorganic hole Conductor, *Jpn. J. Appl. Phys.*, 56, 08MC04.
- Wang, Q., Chen, B., Liu, Y., Deng, Y., Bai, Y., Dong, Q., and Huang, J., 2017, Scaling behavior of moisture-induced grain degradation in polycrystalline hybrid perovskite thin films, *Energy Environ. Sci.*, 10, 516-522.
- Wu, Y., Islam, A., Yang, X., Qin, C., Liu, J., Zhang, K., Peng, W., and Han, L., 2014, Retarding the crystallization of PbI₂ for highly reproducible planar-



structured perovskite solar cells via sequential deposition. *Energy Environ. Sci.*, 7, 2934-2938.

Xing, G. C., Mathews, N., Sun, S. Y., Lim, S. S., Lam, Y. M., Grätzel, M., Mhaisalkar, S., and Sum, T. C., 2013, Long-Range Balanced Electron and Hole-Transport Lengths in Organic-Inorganic CH₃NH₃PbI₃, *Science*, 342, 344-347.

Yang, Z., and Zhang, W. H., 2014, Organolead halide perovskite: A rising player in high - efficiency solar cells, *Chinese Journal of Catalysis*, 35, 983–988.

Zhang, F., Huang, S., Wang, P., Chen, X., Zhao, S., Dong, Y., and Zhong, H., 2017, Colloidal Synthesis of Air-Stable CH₃NH₃PbI₃ Quantum Dots by Gaining Chemical Insight into the Solvent Effects, *Chem. Mater.*, 29, 3793–3799.

Zhang, F., Yang, X., Wang, H., Cheng, M., Zhao, J., and Sun, L., 2014, Structure Engineering of Hole-Conductor Free Perovskite-Based Solar Cells with Low-Temperature-Processed Commercial Carbon Paste As Cathode, *ACS Appl. Mater. Interfaces*, 6, 16140–16146.

Zhang, L., Zhang, X., Yu, Y., Xu, X., Tang, J., He, X., Wu, J., and Lan, Z., 2017, Efficient planar perovskite solar cells based on high-quality perovskite films with smooth surface and large crystal grains fabricated in ambient air conditions, *Solar Energy*, 155, 942–950.

Zhu, F., Men, L., Guo, Y., Zhu, Q., Bhattacharjee, U., Goodwin, P. M., Petrich, J. W., Smith, E. A., and Vela, J., 2015, Shape Evolution and Single Particle Luminescence of Organometal Halide Perovskite Nanocrystals, *Acs Nano*, 9, 2948-2959.