References

Adachi, C., Baldo, M. A., Thompson, M. E., & Forrest, S. R. (2001). Nearly 100% internal phosphorescence efficiency in an organic light-emitting device. *Journal of Applied Physics, 90*, 5048.

Ahmad, Z., & Sayyad, M. H. (2008). Investigation of the Electronic Properties of Au/methyl-red/Ag Surface type Schottky Diode by Current-Voltage Method. *Chapter 8 Ag/OD-MO/Ag Surface-type Diode Proc. World Academy of Science, Engineering and Technology*, 588-590.

An, B. L., Gong, M. L., Li, M. X., Zhang, J. M., & Cheng, Z. X. (2005). Synthesis and luminescence of a novel conjugated europium complex with 6-aniline carbonyl 2-pyridine carboxylic acid. *Journal of Fluorescence, 15*(4), 613-617.

Arkhipov, V., Emelianova, E., Tak, Y., & Bässler, H. (1998). Charge injection into light-emitting diodes: Theory and experiment. *Journal of Applied Physics, 84*, 848.

Aydin, M., Akkiliç, K., & Kiliçoğlu, T. (2004). Relationship between barrier heights and ideality factors of H-terminated Pb/p-Si contacts with and without the interfacial oxide layer. *Applied surface science, 225*(1), 318-323.

Aydin, M., Farag, A., Abdel-Rafea, M., Ammar, A., & Yakuphanoglu, F. (2011). Device characterization of organic nanostructure based on sodium copper chlorophyllin (SCC). *Synthetic Metals*.

Baldo, M., O'brien, D., You, Y., Shoustikov, A., Sibley, S., Thompson, M., et al. (1998). Highly efficient phosphorescent emission from organic electroluminescent devices. *Nature, 395*(6698), 151-154.

Baldo, M., Thompson, M., & Forrest, S. (2000). High-efficiency fluorescent organic light-emitting devices using a phosphorescent sensitizer. *Nature, 403*(6771), 750-752.

Baldo, M., & Forrest, S. (2001). Interface-limited injection in amorphous organic semiconductors. *Physical Review B, 64*(8), 085201.

Bandyopadhyay, S., Bhattacharyya, A., & Sen, S. (1999). Measurements and modelling of the barrier heights and ideality factors in the metal/conducting polymer composite Schottky device. *Journal of Applied Physics, 85*, 3671.

Bässler, H. (1998). Injection, transport and recombination of charge carriers in organic light-emitting diodes. *Polymers for Advanced Technologies, 9*(7), 402-418.

Bao, J., Tang, C., & Tang, R. (2011). Synthesis and luminescent properties of novel pyrazolone rare earth complexes. *Journal of Rare Earths, 29*(1), 15-19.

Bechtold, I. H., Pereira, A., Conte, G., Quirino, W. G., Legnani, C., Cremona, M., et al. (2011). Investigation of the energy transfer mechanism in OLEDs based on a new terbium β-diketonate complex. *Organic Electronics*.

Belian, M. F., De Sa, G. F., Alves Jr, S., & Galembeck, A. (2010). Systematic study of luminescent properties of new lanthanide complexes using crown ethers as ligand. *Journal of Luminescence*.

Bergenti, I., Dediu, V., Mertelj, T., Murgia, M., Riminucci, A., Ruani, G., et al. Intragap-trapped-carriers enhancement of the low-temperature delayed phosphorescence in Alq3. *Organic Electronics, 8*(2-3), 256-261.

Bergenti, I., Dediu, V., Prezioso, M., & Riminucci, A. (2011). Organic spintronics. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 369*(1948), 3054-3068.

Bian, Z., & Huang, C. (2010). Electroluminescence Based on Lanthanide Complexes. *Rare Earth Coordination Chemistry*, 435-472.

Biju, S., Raj, D. B. A., Reddy, M. L. P., & Kariuki, B. M. (2006). Synthesis, Crystal Structure, and Luminescent Properties of Novel Eu3+ Heterocyclic β-Diketonate

Complexes with Bidentate Nitrogen Donors. *Inorganic Chemistry, 45*(26), 10651-10660.

Biju, S., Reddy, M. L. P., & Freire, R. O. (2007). 3-Phenyl-4-aroyl-5-isoxazolonate complexes of Tb^{3+} as promising light-conversion molecular devices. *Inorganic Chemistry Communications, 10*(4), 393-396.

Binnemans, K. (2005). Rare-earth beta-diketonates. *Handbook on the physics and chemistry of rare earths, 35*, 107-272.

Binnemans, K. (2009). Lanthanide-based luminescent hybrid materials. *Chemical reviews, 109*(9), 4283-4374.

Blom, P. W. M., & Vissenberg, M. (2000). Charge transport in poly (p-phenylene vinylene) light-emitting diodes. *Materials Science and Engineering: R: Reports, 27*(3-4), 53-94.

Borsenberger, P. M., & Weiss, D. S. (1993). *Organic photoreceptors for imaging systems* (Vol. 39): CRC.

Borsenberger, P. M., & Weiss, D. S. (1998). *Organic photoreceptors for xerography* (Vol. 59): CRC.

Boyarbay, B., Çetin, H., Kaya, M., & Ayyildiz, E. (2008). Correlation between barrier heights and ideality factors of H-terminated Sn/p-Si (100) Schottky barrier diodes. *Microelectronic Engineering, 85*(4), 721-726.

Boyarbay, B., Çetin, H., Uygun, A., & Ayyildiz, E. (2011). Electrical characterization and fabrication of organic/inorganic semiconductor heterojunctions. *Applied Physics A: Materials Science & Processing, 103*(1), 89-96.

Brunet, E., Juanes, O., & Rodriguez-Ubis, J. C. (2007). Supramolecularly organized lanthanide complexes for efficient metal excitation and luminescence as sensors in organic and biological applications. *Current Chemical Biology, 1*(1), 11-39.

Brütting, W., Berleb, S., & Mückl, A. G. (2001). Device physics of organic light-emitting diodes based on molecular materials. *Organic Electronics, 2*(1), 1-36.

Bünzli, J.-C. G., & Eliseeva, S. V. (2010). Lanthanide NIR luminescence for telecommunications, bioanalyses and solar energy conversion. *Journal of Rare Earths, 28*(6), 824-842.

Chan, M., Lai, S., Fung, M., Lee, C., & Lee, S. (2004). Impact of the metal cathode and CsF buffer layer on the performance of organic light-emitting devices. *Journal of Applied Physics, 95*, 5397.

Chen, Z., Ding, F., Hao, F., Bian, Z., Ding, B., Zhu, Y., et al. (2009). A highly efficient OLED based on terbium complexes. *Organic Electronics, 10*(5), 939-947.

Cheung, S. K., & Cheung, N. W. (1986). Extraction of Schottky diode parameters from forward current-voltage characteristics. *Applied Physics Letters, 49*(2), 85-87.

Chiguvare, Z., Parisi, J., & Dyakonov, V. (2003). Current limiting mechanisms in indium-tin-oxide/poly3-hexylthiophene/aluminum thin film devices. *Journal of Applied Physics, 94*(4), 2440-2448.

Chou, P. T., & Chi, Y. (2006). Osmium-and Ruthenium-Based Phosphorescent Materials: Design, Photophysics, and Utilization in OLED Fabrication. *European Journal of Inorganic Chemistry, 2006*(17), 3319-3332.

Cicoira, F., & Santato, C. (2007). Organic light emitting field effect transistors: advances and perspectives. *Advanced Functional Materials, 17*(17), 3421-3434.

Comby, S., & Bünzli, J. C. G. (2007). Lanthanide near-infrared luminescence in molecular probes and devices. *Handbook on the physics and chemistry of rare earths, 37*, 217-470.

Conwell, E., & Wu, M. (1997). Contact injection into polymer light-emitting diodes. *Applied Physics Letters, 70*(14), 1867-1869.

Crone, B., Davids, P., Campbell, I., & Smith, D. (1998). Device model investigation of single layer organic light emitting diodes. *Journal of Applied Physics, 84*, 833.

Deshmukh, S., Burghate, D., Akhare, V., Deogaonkar, V., Deshmukh, P., & Deshmukh, M. (2007). Electrical conductivity of polyaniline doped PVC-PMMA polymer blends. *Bulletin of Materials Science, 30*(1), 51-56.

Dekker, M. (1993). Organic photoreceptor for imaging system, ed. *By Thompson BJ, Eastman Kodak Company Rochester, New York*.

Dos Reis, G. A., Dias, I. F. L., De Santana, H., Duarte, J. L., Laureto, E., Di Mauro, E., et al. (2011). Analysis of optical properties of poly(3-methylthiophene) (P3MT) electrochemically synthesized. *Synthetic Metals, 161*(3-4), 340-347.

De Silva, C. R., Li, F., Huang, C., & Zheng, Z. (2008). Europium [beta]-diketonates for red-emitting electroluminescent devices. *Thin Solid Films, 517*(2), 957-962.

Dong, H., Zhu, H., Meng, Q., Gong, X., & Hu, W. (2012). Organic photoresponse materials and devices. *Chem. Soc. Rev., 41*(5), 1754-1808.

Dridi, C., Benzarti-Ghédira, M., Vocanson, F., Ben Chaabane, R., Davenas, J., & Ben Ouada, H. (2009). Optical and electrical properties of semi-conducting calix [5, 9] arene thin films with potential applications in organic electronics. *Semiconductor Science and Technology, 24*, 105007.

Duan, J. P., Sun, P. P., & Cheng, C. H. (2005). Europium complexes having an aminophenanthroline ligand as red dopants in electroluminescent devices.

Du, N., Mei, Q., & Lu, M. (2005). Quinolinate aluminum and zinc complexes with multi-methyl methacrylate end groups: synthesis, photoluminescence, and electroluminescence characterization. *Synthetic Metals, 149*(2-3), 193-197.

E. Farsad, S. P. A., A. Goodarzi, M. S. Zabihi. (2011). Experimental Parametric Investigation of Temperature Effects on 60W-QCW Diode Laser. *World Academy of Science, Engineering and Technology, 59*, 1190.

Elmansouri, A., Hadik, N., Outzourhit, A., Lachkar, A., Abouelaoualim, A., Achour, M., et al. (2009). Schottky Diodes and Thin Films Based on Copolymer: Poly (aniline-co-toluidine). *Active and Passive Electronic Components, 2009*.

Evans, R. C., Douglas, P., & Winscom, C. J. (2006). Coordination complexes exhibiting room-temperature phosphorescence: evaluation of their suitability as triplet emitters in organic light emitting diodes. *Coordination Chemistry Reviews, 250*(15-16), 2093-2126.

Fang, J., Chan Choy, C., Ma, D., & Ou, E. C. W. (2006). High-efficiency spin-coated organic light-emitting diodes based on a europium complex. *Thin Solid Films, 515*(4), 2419-2422.

Farag, A., Ashery, A., Terra, F., & Mahmoud, G. (2008). Investigations of AlSb thin films grown on Si by liquid phase epitaxy. *Journal of optoelectronics and adavnced materials, 10*(10), 2713-2718.

Farag, A., Farooq, W., & Yakuphanoglu, F. (2011). Characterization and performance of Schottky diode based on wide band gap semiconductor ZnO using a low-cost and simplified sol-gel spin coating technique. *Microelectronic Engineering*.

Farag, A., Haggag, S., & Mahmoud, M. E. (2012). Thin Film Assembly of Nano-Sized Zn (II)-8-Hydroxy-5, 7-Dinitroquinolate by Using Successive Ion Layer Adsorption and Reaction (SILAR) Technique: Characterization and Optical-Electrical-Photovoltaic Properties. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*.

Ferlauto, A., Ferreira, G., Pearce, J., Wronski, C., Collins, R., Deng, X., et al. (2002). Analytical model for the optical functions of amorphous semiconductors from the near-infrared to ultraviolet: Applications in thin film photovoltaics. Journal of Applied Physics, 92, 2424.

Filip, E., Humelnicu, I., & Ghirvu, C. (2009). Some aspects of 8-hydroxyquinoline in solvents. *Acta Chem. IASI, 17*, 85-96.

Freidzon, A. Y., Scherbinin, A. V., Bagaturyants, A. A., & Alfimov, M. V. (2011). Ab Initio Study of Phosphorescent Emitters Based on Rare-Earth Complexes with Organic Ligands for Organic Electroluminescent Devices. *The Journal of Physical Chemistry A*.

Friend, R., Gymer, R., Holmes, A., Burroughes, J., Marks, R., Taliani, C., et al. (1999). Electroluminescence in conjugated polymers. *Nature, 397*(6715), 121-128.

Gao, X.-C., Cao, H., Huang, C.-H., Umitani, S., Chen, G.-Q., & Jiang, P. (1999). Photoluminescence and electroluminescence of a series of terbium complexes. *Synthetic Metals, 99*(2), 127-132.

Gao, X. C., Cao, H., Huang, C. H., Umitani, S., Chen, G. Q., & Jiang, P. (1999). Photoluminescence and electroluminescence of a series of terbium complexes. *Synthetic Metals, 99*(2), 127-132.

Gfroerer, T. H. (2000). Photoluminescence in analysis of surfaces and interfaces. *Encyclopedia of Analytical Chemistry*.

Guan, J., Chen, B., Sun, Y., Liang, H., & Zhang, Q. (2005). Effects of synergetic ligands on the thermal and radiative properties of $Eu(TTA)_3nL$-doped poly(methyl methacrylate). *Journal of Non-Crystalline Solids, 351*(10-11), 849-855.

Guan, J., Chen, B., Sun, Y., Liang, H., & Zhang, Q. (2005). Effects of synergetic ligands on the thermal and radiative properties of Eu(TTA)3nL-doped poly(methyl methacrylate). *Journal of Non-Crystalline Solids, 351*(10-11), 849-855.

Guha, S., Rice, J., Yau, Y., Martin, C. M., Chandrasekhar, M., Chandrasekhar, H. R., et al. (2003). Temperature-dependent photoluminescence of organic

semiconductors with varying backbone conformation. *Physical Review B, 67*(12), 125204.

Güllü, Ö., Çankaya, M., Biber, M., & Türüt, A. (2008). Fabrication and electrical properties of organic-on-inorganic Schottky devices. *Journal of Physics: Condensed Matter, 20*, 215210.

Gunnlaugsson, T., Harte, A. J., Leonard, J. P., & Nieuwenhuyzen, M. (2003). The formation of luminescent supramolecular ternary complexes in water: Delayed luminescence sensing of aromatic carboxylates using coordinated unsaturated cationic heptadentate lanthanide ion complexes. *Supramolecular Chemistry, 15*(7-8), 505-519.

Günsel, A., Kandaz, M., Yakuphanoglu, F., & Farooq, W. (2011). Extraction of electronic parameters of organic diode fabricated with NIR absorbing functional manganase phthalocyanine organic semiconductor. *Synthetic Metals*.

Gutmann, F. (1967). L. E. Lyons, Organic Semiconductors: John Wiley and Sons Inc., New York.

Hartmut, Y. (2007). Highly efficient OLEDs with phosphorescent materials. *Recherche, 67*, 02.

He, H., Li, W., Su, Z., Li, T., Su, W., Chu, B., et al. (2008). Effects of exciplex on the electroluminescent and photovoltaic properties of organic diodes based on terbium complex. *Solid-state electronics, 52*(1), 31-36.

Hebbink, G. A. (2002). *Luminescent materials based on lanthanide ions. Basic properties and application in NIR-LEDs and optical amplifiers*: Twente University Press.

HernáNdez, I., & Gillin, W. P. (2009). Influence of High Hydrostatic Pressure on Alq3, Gaq_3, and Inq_3 (q= 8-Hydroxyquinoline). *The Journal of Physical Chemistry B, 113*(43), 14079-14086.

Hernández, I., Gillin, W. P., & Somerton, M. (2009). Spectroscopic study of Mq_3 (M=Al, Ga, In, q=8-hydroxyquinolinate) at high pressure. *Journal of Luminescence, 129*(12), 1835-1839.

Holder, E., Langeveld, B. M. W., & Schubert, U. S. (2005). New Trends in the Use of Transition Metal–Ligand Complexes for Applications in Electroluminescent Devices. *Advanced Materials, 17*(9), 1109-1121.

Hoon-Khosla, M., Fawcett, W. R., Goddard, J. D., Tian, W. Q., & Lipkowski, J. (2000). Reflection FTIR studies of the conformation of 2,2′-bipyridine adsorbed at the Au(111) electrode/electrolyte interface. *Langmuir, 16*(5), 2356-2362.

Irfan, A., Cui, R., & Zhang, J. (2009). Fluorinated derivatives of <i>mer</i>-Alq3: energy decomposition analysis, optical properties, and charge transfer study. *Theoretical Chemistry Accounts: Theory, Computation, and Modeling (Theoretica Chimica Acta), 122*(5), 275-281.

Jiao, Z. Q., Wu, X. M., Hua, Y. L., Dong, M. S., Su, Y. J., Shen, L. Y., et al. (2011). Improving efficiency of organic light-emitting devices by optimizing the LiF interlayer in the hole transport layer. *Chinese Physics B, 20*, 107803.

Junhong, Y. (2009). Luminescent materials for organic light-emitting diodes (OLEDs) and bioimaging.

Jurriaan, S. (2007). Adding functionality to microchips by wafer post-processing. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 576*(1), 142-149.

Kappaun, S., Slugovc, C., & List, E. J. (2008). Phosphorescent organic light-emitting devices: Working principle and iridium based emitter materials. *International Journal of Molecular Sciences, 9*(8), 1527-1547.

Katkova, M., Vitukhnovsky, A. G., & Bochkarev, M. N. (2005). Coordination compounds of rare-earth metals with organic ligands for electroluminescent diodes. *Russian Chemical Reviews, 74*(12), 1089-1109.

Katkova, M. A., Balashova, T. V., Pushkarev, A. P., Ilyin, I. Y., Fukin, G. K., Baranov, E. V., et al. (2011). Anhydrous mono- and dinuclear tris(quinolinolate) complexes of scandium: the missing structures of rare earth metal 8-quinolinolates. *Dalton Transactions, 40*(30), 7713-7717.

Katkova, M. A., Ilichev, V. A., Konev, A. N., Pestova, I. I., Fukin, G. K., & Bochkarev, M. N. (2009). 2-Mercaptobenzothiazolate complexes of rare earth metals and their electroluminescent properties. *Organic Electronics, 10*(4), 623-630.

Kavitha, J., Chang, S. Y., Chi, Y., Yu, J. K., Hu, Y. H., Chou, P. T., et al. (2005). In Search of High-Performance Platinum (II) Phosphorescent Materials for the Fabrication of Red Electroluminescent Devices. *Advanced Functional Materials, 15*(2), 223-229.

Kim, Y. H., Lee, S. Y., Song, W., Meng, M., Lu, Z. H., & Kim, W. Y. High contrast green OLEDs using inorganic metal multi layer. *Synthetic Metals, 161*(21-22), 2211-2214.

Kim, H. J., Lee, J. E., Kim, Y. S., & Park, N. G. (2003). Ligand effect on the electroluminescence mechanism in lanthanide (III) complexes. *Optical Materials, 21*(1), 181-186.

Kim, Y., & Ha, C. S. (2008). *Advances in organic light-emitting devices*: Trans Tech Publications.

Kim, Y., Keum, J., Lee, J. G., Lim, H., & Ha, C. S. (2000). Non-linear charge conduction and emission behaviour of OELD fabricated with Alq3 and TPD-doped soluble polyimide. *Advanced Materials for Optics and Electronics, 10*(6), 273-283.

Khalifa, M. B., Vaufrey, D., Bouazizi, A., Tardy, J., & Maaref, H. (2002). Hole injection and transport in ITO/PEDOT/PVK/Al diodes. *Materials Science and Engineering: C, 21*(1), 277-282.

Klink, S. I. (2000). *Synthesis and photophysics of light-converting lanthanide complexes*: Universiteit Twente.

Kohler, A., & Bassler, H. (2011). What controls triplet exciton transfer in organic semiconductors? *Journal of Materials Chemistry, 21*(12), 4003-4011.

Köhler, A., Wilson, J. S., & Friend, R. H. (2002). Fluorescence and phosphorescence in organic materials. *Advanced Engineering Materials, 4*(7), 453.

Kondakova, M. E., Deaton, J. C., Pawlik, T. D., Giesen, D. J., Kondakov, D. Y., Young, R. H., et al. (2010). Highly efficient fluorescent-phosphorescent triplet-harvesting hybrid organic light-emitting diodes. *Journal of Applied Physics, 107*(1), 014515-014515-014513.

Kusrini, E., Saleh, M. I., Adnan, R., Yulizar, Y., Sha Shiong, N., Fun, H., et al. (2012). Structural, optical and electrical properties of europium picrate tetraethylene glycol complex as emissive material for OLED. *Journal of Luminescence, 132*(1), 91-99.

Kumar, R., Srivastava, R., Kumar, A., Kamalasanan, M. N., & Singh, K. (2010). Green-light–emitting electroluminescent device based on a new cadmium complex. *EPL (Europhysics Letters), 90*(5), 57004.

Latva, M., Takalo, H., Mukkala, V.-M., Matachescu, C., Rodríguez-Ubis, J. C., & Kankare, J. (1997). Correlation between the lowest triplet state energy level of the ligand and lanthanide(III) luminescence quantum yield. *Journal of Luminescence, 75*(2), 149-169.

Laxmikanth Rao, J., & Bhanuprakash, K. (2011). Structure and electronic properties of tris (4-hydroxy-1, 5-naphthyridinato) aluminum (AlND3) and its methyl

derivatives: a theoretical study. *Theoretical Chemistry Accounts: Theory, Computation, and Modeling (Theoretica Chimica Acta)*, 1-9.

Lehn, J.-M. (1990). Perspectives in Supramolecular Chemistry—From Molecular Recognition towards Molecular Information Processing and Self-Organization. *Angewandte Chemie International Edition in English, 29*(11), 1304-1319.

Lepnev, L., Vaschenko, A., Vitukhnovsky, A., Eliseeva, S., Kotova, O., & Kuzmina, N. (2009). OLEDs based on some mixed-ligand terbium carboxylates and zinc complexes with tetradentate Schiff bases: Mechanisms of electroluminescence degradation. *Synthetic Metals, 159*(7-8), 625-631.

Leung, C.-F., Wong, C.-Y., Ko, C.-C., Yuen, M.-C., Wong, W.-T., Wong, W.-Y., et al. (2009). 8-Quinolinolato complexes of ruthenium(II) and (III). *Inorganica Chimica Acta, 362*(4), 1149-1157.

Li, L., & Xu, B. (2008). Synthesis and characterization of 5-substituted 8-hydroxyquinoline derivatives and their metal complexes. *Tetrahedron, 64*(49), 10986-10995.

Li, T., Shang, W., Zhang, F., Mao, L., Tang, C., Song, M., et al. (2011). Luminescent Properties of Europium Complexes with Different Long Chains in Langmuir-Blodgett (LB) Films. *Engineering, 3*.

Li, X.-N., Wu, Z.-J., Si, Z.-J., Liang, Z., Liu, X.-J., & Zhang, H.-J. (2009). Effect of secondary ligands' size on energy transfer and electroluminescent efficiencies for a series of europium(iii) complexes, a density functional theory study. *Physical Chemistry Chemical Physics, 11*(42), 9687-9695.

Li, X., Xiao, G., Chi, H., Dong, Y., Zhao, H., Lei, P., et al. (2010). A novel fluorinated europium ternary complex for highly efficient pure red electroluminescence. *Materials Chemistry and Physics, 123*(1), 289-292.

Lim, J., Lee, J., Park, J., Park, B., & Yeom, G. (2008). Top-emitting organic light-emitting diodes based on semitransparent conducting cathode of Ba/Al/ITO. *Surface and Coatings Technology, 202*(22-23), 5646-5649.

Lin, Y. H. (2010). Structure and properties of transparent conductive ZnO films grown by pulsed laser deposition (PLD).

Ling, Q.-D., Liaw, D.-J., Zhu, C., Chan, D. S.-H., Kang, E.-T., & Neoh, K.-G. (2008). Polymer electronic memories: Materials, devices and mechanisms. *Progress in Polymer Science, 33*(10), 917-978.

Ling, Q. D., Kang, E. T., Neoh, K. G., & Huang, W. (2003). Synthesis and Nearly Monochromatic Photoluminescence Properties of Conjugated Copolymers Containing Fluorene and Rare Earth Complexes. *Macromolecules, 36*(19), 6995-7003.

Lis, S., Piskula, Z., Staninski, K., Tamaki, S., Inoue, M., & Hasegawa, Y. (2008). Luminescence study of europium (III) tris ([beta]-diketonato)/phosphonate complexes in chloroform. *Journal of Rare Earths, 26*(2), 185-191.

Liu, H.-G., Park, S., Jang, K., Zhang, W.-S., Seo, H.-J., & Lee, Y.-I. (2003). Different photoluminescent properties of binary and ternary europium chelates doped in PMMA. *Materials Chemistry and Physics, 82*(1), 84-92.

Liu, Y., Wang, Y., Guo, H., Zhu, M., Li, C., Peng, J., et al. (2011). Synthesis and Optoelectronic Characterization of a Monochromic Red-Emitting Europium (III) Complex Containing Triphenylamine-Functionalized Phenanthroline. *The Journal of Physical Chemistry C*.

Liu, S. L., Wen, C. L., Qi, S. S., & Liang, E. X. (2008). Synthesis and photoluminescence properties of novel europium complexes of 2′-hydroxyacetophenone and 4, 6-diacetylresorcinol. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 69*(2), 664-669.

Luo, J., Yang, C., Zheng, J., Ma, J., Liang, L., & Lu, M. (2011). Synthesis and photophysics properties of novel bipolar copolymers containing quinoline aluminum moieties and carbazole segments. *European Polymer Journal, 47*(3), 385-393.

Luo, Y.-M., Chen, Z., Tang, R.-R., Xiao, L.-X., & Peng, H.-J. (2008). Investigations into the synthesis and fluorescence properties of Eu(III), Tb(III), Sm(III) and Gd(III) complexes of a novel bis-β-diketone-type ligand. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 69*(2), 513-516.

Lv, Y., Song, C., Zhang, Y., Sha, J., Liu, C., Zhang, F., et al. (2010). Synthesis and electroluminescent property of ternary complexes $Eu(TTA)_3M$. *Journal of Alloys and Compounds, 492*(1-2), 259-263.

Maffeo, D., & Williams, J. a. G. (2003). Intramolecular sensitisation of europium(III) luminescence by 8-benzyloxyquinoline in aqueous solution. *Inorganica Chimica Acta, 355*(0), 127-136.

Magdalena, S. (2010). Hybrid conjugated polymer/semiconductor photovoltaic cells. *Synthetic Metals, 160*(1-2), 1-15.

Magennis, S. W., Ferguson, A. J., Bryden, T., Jones, T. S., Beeby, A., & Samuel, I. D. W. (2004). Corrigendum to "Time-dependence of erbium(III) tris(8-hydroxyquinolate) near-infrared photoluminescence: implications for organic light-emitting diode efficiency" [Synth. Met. 138 (2003) 463–469]. *Synthetic Metals, 143*(2), 251.

Male, N. a. H., Salata, O. V., & Christou, V. (2002). Enhanced electroluminescent efficiency from spin-coated europium (III) organic light-emitting device. *Synthetic Metals, 126*(1), 7-10.

Malliaras, G., & Friend, R. (2005). An organic electronics primer. *Physics Today, 58*, 53.

Manas, E. S., & Chen, L. X. (2000). Electronic interactions in metal complexed photoconducting polymers: a ZINDO study. *Chemical Physics Letters, 331*(2-4), 299-307.

Mandal, S., Green, M. A., & Natarajan, S. (2005). Synthesis, structure and magnetic properties of a new one-dimensional iron phosphite,[Fe III (1, 10-phenanthroline)(HPO_3)(H_2PO_3)]. *Current Science, 89*(11), 1899-1903.

Matsushima, T., & Murata, H. (2009). Observation of space-charge-limited current due to charge generation at interface of molybdenum dioxide and organic layer. *Applied Physics Letters, 95*(20), 203306-203306-203303.

Méndez, H., Thurzo, I., & Zahn, D. (2007). Experimental study of charge transport mechanisms in a hybrid metal/organic/inorganic device. *Physical Review B, 75*(4), 045321.

Mèndez Pinzón, H. A. (2006). *Organic modification of metal/semiconductor Schottky contacts.* Universitätsbibliothek der Technischen Universität.

Meškinis, Š., Šlapikas, K., Gudaitis, R., Tamulevičius, S., Iljinas, A., Gudonytė, A., et al. Investigation of the Electrical Characteristics of the Metal/Organic Semiconductor/Metal Structures with Top Contact Configuration.

Mikhnenko, O. V. (2012). *Dynamics of Singlet and Triplet Excitons in Organic Semiconductors.* Unpublished Ph.D. thesis, University of Groningen, the Netherlands.

Muhammad, F. F., & Sulaiman, K. (2011). Utilizing a simple and reliable method to investigate the optical functions of small molecular organic films-Alq_3 and Gaq_3 as examples. *Measurement*.

Muhammad, F. F., Abdul Hapip, A. I., & Sulaiman, K. (2010). Study of optoelectronic energy bands and molecular energy levels of tris (8-hydroxyquinolinate) gallium and aluminum organometallic materials from their spectroscopic and

electrochemical analysis. *Journal of Organometallic Chemistry, 695*(23), 2526-2531.

Osiris, W., Farag, A., & Yahia, I. (2011). Extraction of the device parameters of Al/P3OT/ITO organic Schottky diode using JV and CV characteristics. *Synthetic Metals*.

Pan, Z., Jia, G., Duan, C.-K., Wong, W.-Y., Wong, W.-T., & Tanner, P. A. (2011). Crystal Structure, Spectroscopy and Crystal Field Analysis of Substituted 1,10-Phenanthroline–Europium Complexes. *European Journal of Inorganic Chemistry, 2011*(5), 637-646.

Parker, I. D. (1994). Carrier tunneling and device characteristics in polymer light-emitting diodes. *Journal of Applied Physics, 75*(3), 1656-1666.

Pasveer, W. F. (2004). Charge and Energy Transport in Disordered π-conjugated Systems.

Pereira, A., Gallardo, H., Conte, G., Quirino, W. G., Legnani, C., Cremona, M., et al. (2012). Investigation of the energy transfer mechanism in OLEDs based on a new terbium β-diketonate complex. *Organic Electronics, 13*(1), 90-97.

Pimchan, P., Khaorapapong, N., & Ogawa, M. (2011). Preparation of a series of group XIII metal–quinolate complexes in natural and synthetic smectites. *Applied Clay Science*.

Pivrikas, A., Neugebauer, H., & Sariciftci, N. S. (2011). Influence of processing additives to nano-morphology and efficiency of bulk-heterojunction solar cells: A comparative review. *Solar Energy, 85*(6), 1226-1237.

Rai, V. K., Srivastava, R., Chauhan, G., Saxena, K., Bhardwaj, R. K., Chand, S., et al. (2008). Synthesis and electroluminescence properties of zinc(2,2′ bipyridine)8-hydroxyquinoline. *Materials Letters, 62*(17-18), 2561-2563.

Reisfeld, R. (2004). Rare earth ions: their spectroscopy of cryptates and related complexes in glasses. *Optical Spectra and Chemical Bonding in Inorganic Compounds*, 209-235.

Rhoderick, E., & Williams, R. (1988). Metal-Semiconductor Contacts,(2nd edn.), Clarendon: Oxford.

Riechel, S. (2002). *Organic semiconductor lasers with two-dimensional distributed feedback*. Ludwig-Maximilians-Universität München.

Qin, D., Liu, J., Chen, Y., Chen, L., Quan, W., & Li, G. (2012). Increased performance in the organic light-emitting diode employing two p-doped hole transport layers. *Semiconductor Science and Technology, 27*, 045012.

Quirino, W. G., Legnani, C., Cremona, M., Lima, P. P., Junior, S. A., & Malta, O. L. (2006). White OLED using β-diketones rare earth binuclear complex as emitting layer. *Thin Solid Films, 494*(1-2), 23-27.

Saleh, M. I., Kusrini, E., Mohd Sarjidan, M. A., & Abd. Majid, W. H. (2011). Study and fabrication of europium picrate triethylene glycol complex. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 78*(1), 52-58.

Santos, G., Fonseca, F. J., Andrade, A. M., Deichmann, V., Akcelrud, L., Braga, S. S., et al. (2008). Organic light emitting diodes with europium (III) emissive layers based on β-diketonate complexes: The influence of the central ligand. *Journal of Non-Crystalline Solids, 354*(19-25), 2897-2900.

Saricifici, S. N., Koppe, M., & Neugebauer, H. Light Emitting Diodes (LED's) based on Rare Earth Emitters.

Schmitsdorf, R., Kampen, T., & Mönch, W. (1997). Explanation of the linear correlation between barrier heights and ideality factors of real metal-semiconductor contacts by laterally nonuniform Schottky barriers. *Journal of*

Vacuum Science & Technology B: Microelectronics and Nanometer Structures, 15, 1221.

Schulman, S. G. (1985). *Molecular luminescence spectroscopy: methods and applications* (Vol. 1): Wiley-Interscience.

Segal, M., Singh, M., Rivoire, K., Difley, S., Van Voorhis, T., & Baldo, M. (2007). Extrafluorescent electroluminescence in organic light-emitting devices. *Nature materials, 6*(5), 374-378.

Seo, J. H., Park, I. H., Kim, G. Y., Lee, K. H., Kim, M. K., Yoon, S. S., et al. (2008). Hybrid spacer for high-efficiency white organic light-emitting diodes. *Applied Physics Letters, 92*, 183303.

Seth, S., & Aravindakshan, K. (2011). Dimedone and phenylazo dimedone chelates of europium as emitters in polymers. *Journal of Applied Polymer Science*.

Shah, M., Sayyad, M., & Karimov, K. S. (2011). Electrical characterization of the organic semiconductor Ag/CuPc/Au Schottky diode. *Journal of Semiconductors, 32*, 044001.

Shah, M., Sayyad, M., Karimov, K. S., & Maroof-Tahir, M. (2010). Investigation of the electrical properties of a surface-type Al/NiPc/Ag Schottky diode using IV and CV characteristics. *Physica B: Condensed Matter, 405*(4), 1188-1192.

Shah, M., Sayyad, M., Karimov, K. S., & Wahab, F. (2010). Electrical characterization of the ITO/NiPc/PEDOT: PSS junction diode. *Journal of Physics D: Applied Physics, 43*, 405104.

Shinar, J., & Shinar, R. (2008). Organic light-emitting devices (OLEDs) and OLED-based chemical and biological sensors: an overview. *Journal of Physics D: Applied Physics, 41*, 133001.

Shukla, V. K., & Kumar, S. (2010). Conversion of a green light emitting zinc-quinolate complex thin film to a stable and highly packed blue emitter film. *Synthetic Metals, 160*(5-6), 450-454.

Sokolov, A. N., Roberts, M. E., & Bao, Z. (2009). Fabrication of low-cost electronic biosensors. *Materials Today, 12*(9), 12-20.

Stathatos, E., Chen, Y., & Dionysiou, D. D. (2008). Quasi-solid-state dye-sensitized solar cells employing nanocrystalline TiO2 films made at low temperature. *Solar Energy Materials and Solar Cells, 92*(11), 1358-1365.

Sui, Y., & Yan, B. (2006). Fabrication and photoluminescence of molecular hybrid films based on the complexes of 8-hydroxyquinoline with different metal ions via sol-gel process. *Journal of Photochemistry and Photobiology A: Chemistry, 182*(1), 1-6.

Sun, L.-N., Zhang, Y., Yu, J.-B., Yu, S.-Y., Dang, S., Peng, C.-Y., et al. (2008). Design and synthesis of near-IR luminescent mesoporous materials covalently linked with tris(8-hydroxyquinolinate)lanthanide(III) complexes. *Microporous and Mesoporous Materials, 115*(3), 535-540.

Sze, S., & Ng, K. K. (1981). Metal-Semiconductor Contacts. *Physics of semiconductor devices, 2*, 245-311.

Tang, C., & Vanslyke, S. (1987). Organic electroluminescent diodes. *Applied Physics Letters, 51*(12), 913-915.

Teotonio, E. E. S., Brito, H. F., Cremona, M., Quirino, W. G., Legnani, C., & Felinto, M. C. F. C. (2009). Novel electroluminescent devices containing Eu3+-(2-acyl-1,3-indandionate) complexes with TPPO ligand. *Optical Materials, 32*(2), 345-349.

Teixeira, K., Moreira, G., Quirino, W., Legnani, C., Silva, R., Cremona, M., et al. (2011). Rare-earth based OLEDs. *Journal of Thermal Analysis and Calorimetry, 106*(2), 587-593.

Thompson, J., Blyth, R. I. R., Gigli, G., & Cingolani, R. (2004). Obtaining characteristic 4f-4f luminescence from rare earth organic chelates. *Advanced Functional Materials, 14*(10), 979-984.

Tung, R. T. (1992). Electron transport at metal-semiconductor interfaces: General theory. *Physical Review B, 45*(23), 13509-13523.

Turro, N. J. (1991). *Modern molecular photochemistry*: Univ Science Books.

Veinot, J. G. C., & Marks, T. J. (2005). Toward the Ideal Organic Light-Emitting Diode. The Versatility and Utility of Interfacial Tailoring by Cross-Linked Siloxane Interlayers. *Accounts of Chemical Research, 38*(8), 632-643.

Wang, H., He, P., Liu, S., Shi, J., & Gong, M. (2009). A europium(III) organic ternary complex applied in fabrication of near UV-based white light-emitting diodes. *Applied Physics B: Lasers and Optics, 97*(2), 481-487.

Wang, H., He, P., Yan, H., & Gong, M. (2011). Synthesis, characteristics and luminescent properties of a new europium(III) organic complex applied in near UV LED. *Sensors and Actuators B: Chemical, 156*(1), 6-11.

Wetzelaer, G., Koster, L., & Blom, P. (2011). Validity of the Einstein Relation in Disordered Organic Semiconductors. *Physical review letters, 107*(6), 66605.

Woo, H., Czerw, R., Webster, S., Carroll, D., Park, J., & Lee, J. (2001). Organic light emitting diodes fabricated with single wall carbon nanotubes dispersed in a hole conducting buffer: the role of carbon nanotubes in a hole conducting polymer. *Synthetic Metals, 116*(1-3), 369-372.

Wu, I., Chen, Y. H., Wang, P. S., Wang, C. G., Hsu, S. H., & Wu, C. I. (2010). Correlation of energy band alignment and turn-on voltage in organic light emitting diodes. *Applied Physics Letters, 96*(1), 013301-013301-013303.

Xiao, L.-X., Luo, Y.-M., Chen, Z., Li, J., & Tang, R.-R. (2008). Investigations into the synthesis and fluorescence properties of Tb(III) complexes of a novel bis-β-diketone-type ligand and a novel bispyrazole ligand. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 71*(2), 321-325.

Xie, G., Meng, Y., Wu, F., Tao, C., Zhang, D., Liu, M., et al. (2008). Very low turn-on voltage and high brightness tris-(8-hydroxyquinoline) aluminum-based organic light-emitting diodes with a MoO p-doping layer. *Applied Physics Letters, 92*, 093305.

Xin, Q., Li, W., Su, W., Li, T., Su, Z., Chu, B., et al. (2007). Emission mechanism in organic light-emitting devices comprising a europium complex as emitter and an electron transporting material as host. *Journal of Applied Physics, 101*, 044512.

Xin, H., Shi, M., Gao, X. C., Huang, Y. Y., Gong, Z. L., Nie, D. B., et al. (2004). The effect of different neutral ligands on photoluminescence and electroluminescence properties of ternary terbium complexes. *The Journal of Physical Chemistry B, 108*(30), 10796-10800.

Yan, B., & Kong, L. L. (2010). Binary and Ternary Heterometallic (La^{3+}, Gd^{3+}, Y^{3+}) – Eu^{3+} Functionalized SBA-15 Mesoporous Hybrids: Chemically Bonded Assembly and Photoluminescence. *Nanoscale Research Letters, 5*(7), 1195-1203.

Yang, C. H., & Yang, T. C. (2008). Self-doped polyaniline-modified anode for polymer light-emitting diode. *Journal of Physics and Chemistry of Solids, 69*(2-3), 769-774.

Yap, C., Yahaya, M., & Salleh, M. (2008). Influence of thickness of functional layer on performance of organic salt-doped OLED with ITO/PVK: PBD: TBAPF/Al structure. *Current Applied Physics, 8*(5), 637-644.

Yu, Y.-W., Cho, C.-P., & Perng, T.-P. (2009). Crystalline Gaq_3Nanostructures: Preparation, Thermal Property and Spectroscopy Characterization. *Nanoscale Research Letters, 4*(8), 820 - 827.

Yu, X., & Su, Q. (2003). Photoacoustic and luminescence properties study on energy transfer and relaxation processes of Tb(III) complexes with benzoic acid. *Journal of Photochemistry and Photobiology A: Chemistry, 155*(1-3), 73-78.

Zhang, A., Pan, Q., Jia, H., Liu, X., & Xu, B. (2012). Synthesis, characteristic and intramolecular energy transfer mechanism of reactive terbium complex in white light emitting diode. *Journal of Rare Earths, 30*(1), 10-16.

Zhang, F., Hou, Y., Du, C., & Wu, Y. (2009). Synthesis, structures, photo-and electro-luminescent properties of novel oxadiazole-functionlized europium (III) benzamide complexes. *Dalton Trans.*(36).

Zorba, S., Watkins, N. J., Yan, L., & Gao, Y. (2001). *Current-Voltage Measurements as a Function of Applied Tip Force on Pentacene by Conducting Probe Microscopy*.