

Prof. Mostafa A. El-Sayed's Publications: (updated 3/21/2020)

Total publications: 775, total citations: >122130, h-index: 127

Publications from 1 to 12 are on research carried out as a graduate student, and postdoc and publications from 13 to 332 are on research carried out at University of California-Los Angeles (UCLA) in the field of chemical physics, spectroscopy, and electronic energy relaxation in molecules and matter in different phases while publications from 333 to present are on research carried out at the Laser Dynamics Laboratory (Georgia Tech, <http://ldl.gatech.edu>) started in 1994 and mostly in the field of nanoscience and nanotechnology. For more information, please visit Prof. El-Sayed's google scholar [web page](#).

List of Publications before joining University of California at Los Angeles (1956-1961)

1. M.A.El-Sayed and R. K. Sheline, "The Infrared Spectrum and Structure of Hexacyanodnickelate(I) Ion, $[\text{Ni}_2(\text{CN})_6]^{4-}$," J. Amer. Chem. Soc., 78 (1956).
2. M.A.El-Sayed and R. Wolfgang, "Chemical Reaction of Recoil Tritium with Gaseous Alkanes," J. Amer. Chem. Soc. 79, 3286 (1957).
3. M.A.El-Sayed, Peter Estrup, and R. Wolfgang, "Mechanism of the Reaction of Recoil Hydrogen in the Gaseous Phase," J. Phys. Chem., 62, 1356 (1958).
4. M.A.El-Sayed, "A Nuclear Method for Determining Very Low Vapor Pressures," Nucl. Instru., 3, 359 (1958).
5. M.A.El-Sayed and R. K. Sheline, "The Infrared Spectrum and Structure of the $[\text{Ni}(\text{CN})_4]^{4-}$ Ion," J. Amer. Chem. Soc., 80, 2047 (1958).
6. M.A.El-Sayed and R.K. Sheline, "The Position of the CN Stretching Frequency in Organic and Inorganic Molecules," J. Inorg. Nucl. Chem., 6, 187 (1958).
7. M.A.El-Sayed, "The Relation Between the CN Stretching Frequency and Hammett's ρ ," J. Inorg. Nucl. Chem., 10, 168 (1959).
8. M.A.El-Sayed and M. Kasha, "Orbital Type Interchange by Solvation and Effects on the Emission Properties of Naphthalene N-heterocyclics," Spectrochimica Acta, 15, 758 (1960).
9. M.A.El-Sayed, M. Kasha, and Y. Tanaka, "Ionization Potentials of Benzene, Hexadeuterobenzene, and Pyridine from their Observed Rydberg Series in the 600-2000 Å," J. Chem. Phys., 34, 334 (1961).
10. M.A.El-Sayed and G. W. Robinson, "Excitation Transfer Splitting in the n, π^* Transitions of the Diazines," J. Chem. Phys., 34, 1840 (1961).
11. M.A.El-Sayed and G. W. Robinson, "Comments on a Communication by El-Sayed and Robinson," J. Chem. Phys., 35, 1896 (1961).
12. M.A.El-Sayed and G. W. Robinson, "Intramolecular Excitation Transfer. The Lowest $n \rightarrow \pi^*$ Transitions in Pyrazine," Mol. Phys., 4, 273 (1961).

List of Publications after joining the faculty of School of Chemistry and Biochemistry at University of California at Los Angeles (1961-1994)

13. M.A.El-Sayed, "The Effect of Reducing the Symmetry on the Spectra of Benzene in the 1500-2000 Å Region: Spectra of Pyridine, Pyrimidine, and Pyrazine," *J. Chem. Phys.*, 36, 552 (1962).
14. M.A.El-Sayed, "The Radiationless Processes Involving Change of Multiplicity in the Diazenes," *J. Chem. Phys.*, 36, 573 (1962).
15. M.A.El-Sayed, "Perturbational Enhancement of the Coupling Between the Lowest Two Electronic p,p^* States in Naphthalene," *J. Chem. Phys.*, 36, 1943 (1962).
16. M.A.El-Sayed and H. D. Kaesz, "Assignment of the CO Stretching Absorptions in C_{4v} Metal Pentacarbonyl Derivatives," *J. Mol. Spect.*, 9, 310 (1962).
17. M.A.El-Sayed, M. T. Wauk, and G. W. Robinson, "Retardation of Singlet and Triplet Excitation Migration in Organic Crystals by Isotopic Dilution," *Mol. Phys.*, 5, 205 (1962).
18. W.Rhodes and M. A. El-Sayed, "Observed Electronic Transitions in Hexahelicene," *J. Mol. Spect.*, 9, 42 (1962).
19. M.A.El-Sayed, "Intramolecular Resonance Interaction Between Fundamental Vibrations of Polyatomic Molecules," *J. Chem. Phys.*, 37, 680 (1962).
20. G.Dodson, M. A. El-Sayed, I. Stolz, and R. K. Sheline, "Photochemical Formation of Some Metal Hexacarbonylacetonitrile Derivatives," *Inorg. Chem.*, 1, 526 (1962).
21. M.A.El-Sayed, "The Method of Oscillating Interacting Dipoles and the Vibrational Spectra of Some Organic and Metal Poly-Carbonyl Derivatives," *Spectrochimica Acta*, 18, 1387 (1962).
22. M.A.El-Sayed, "S-T Radiationless Process and the Emission Properties of Nitrogen Heterocyclics," *Bull. Amer. Phys. Soc.*, 7, 499 (1962).
23. M.A.El-Sayed, "Proposed Effect of High Pressures on the Radiationless Processes," *J. Chem. Phys.*, 37, 1568 (1962).
24. M.A.El-Sayed and H. D. Kaesz, "Infrared Spectra and Structure of the Tetracarbonyl Halide Dimers of Manganese, Technetium and Rhenium," *Inorg. Chem.*, 2, 158 (1963).
25. M.A.El-Sayed, "Origin of the Phosphorescence Radiation in Aromatic Hydrocarbons," *Nature*, 197, 481 (1963).
26. M.A.El-Sayed, "Comments on Contaminating the Ground State with Triplet Character," *J. Chem. Phys.*, 38, 3032 (1963).
27. M.A.El-Sayed, "Spin Orbit Coupling and the Radiationless Processes in Nitrogen Heterocyclics," *J. Chem. Phys.*, 38, 2834 (1963).
28. M.A.El-Sayed, "Polarization of Molecular Luminescence in Plastic Media by the Method of Photoselection," *J. Opt. Soc. Amer.*, 53, 797 (1963).
29. M.A.El-Sayed and T. Pavlopoulos, "Polarization of the Triplet-Triplet Absorption Spectrum of Some Polyacenes by the Method of Photoselection," *J. Chem. Phys.*, 39, 834 (1963).
30. M.A.El-Sayed and R. G. Brewer, "Polarization of δ , δ^* and n , δ^* Phosphorescence Spectra of N-heterocyclics," *J. Chem. Phys.*, 39, 162 (1963).
31. M.A.El-Sayed and T. Pavlopoulos, "Intramolecular Heavy-Atom Effect on the Polarization of Naphthalene Phosphorescence," *J. Chem. Phys.*, 39, 1899 (1963).

32. M.A.El-Sayed and M. Bhaumik, "Inter-Intra (Intera) Molecular Energy Transfer to Rare-Earth Ions in Chelates," J. Chem. Phys., 39, 2391 (1963).
33. M.A.El-Sayed, "A New Class of Photochromic Substances: Metal Carbonyls," J. Phys. Chem., 68, 433 (1964).
34. J.K.Roy and M. A. El-Sayed, "Donor-Acceptor Relative Orientation for Maximum Triplet-Triplet Energy Transfer," J. Chem. Phys., 40, 3442 (1964).
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36. M.A.El-Sayed, "Vanishing First- and Second-Order Intramolecular Heavy-Atom Effects on the ($p^* \rightarrow n$) Phosphorescence in Carbonyls," J. Chem. Phys., 41, 2462 (1964).
37. K.Eisenthal and M. A. El-Sayed, "Heavy-Atom Effects on Radiative and Radiationless Processes in Charge-Transfer Complexes," J. Chem. Phys., 42, 794 (1965).
38. M.L.Bhaumik and M. A. El-Sayed, "Mechanism and Rate of the Intramolecular Energy Transfer Process in Rare-Earth Chelates," J. Chem. Phys., 42, 787 (1965).
39. M.L.Bhaumik and M. A. El-Sayed, "Studies on the Triplet-Triplet Energy Transfer to Rare Earth Chelates," J. Phys. Chem., 69, 275 (1965).
40. M.L.Bhaumik and M. A. El-Sayed, "Mechanism of Energy Transfer in Some Rare-Earth Chelates," Applied Optics Suppl. 2 of Chem. Lasers, 214 (1965).
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47. S.J.Wilt and M. A. El-Sayed, "The Vibrational Spectra and Structure of 1,4,7-Cyclononatriene and Related Derivatives," J. Amer. Chem. Soc., 88, 2911 (1966).
48. N.K.Chaudhuri and M. A. El-Sayed, "Host-Crystal Effects on the Mechanism of the p, p^* Phosphorescence. II. N-Heterocyclic," J. Chem. Phys., 44, 3728 (1966).
49. M.A.El-Sayed and S. Siegel, "Method of Magnetophotoselection of the Lowest Excited Triplet State of Aromatic Molecules," J. Chem. Phys., 44, 1416 (1966).

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56. M.A.El-Sayed, F. M. Johnson, and J. Duardo, "A Comparative Study of the Coherent Raman Processes Using the Ruby and the Second Harmonic Neodymium Giant-Pulsed Lasers," *Journal de Chimie Physique*, 1, 227 (1967).
57. N.K.Chaudhuri and M. A. El-Sayed, "Molecular Origin of the Optical Rotatory Dispersion of the Benzil Crystal," *J. Chem. Phys.*, 47, 1133 (1967).
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59. M.A.El-Sayed, "Medium Effects on the Phosphorescence Mechanism of Aromatic Hydrocarbons," *J. Chem. Phys.*, 47, 2200 (1967).
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61. M.A.El-Sayed, "The Triplet State: Its Radiative and Nonradiative Properties," *Acc. Chem. Res.*, 1, 8 (1968).
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66. M.A.El-Sayed, L. Hall, A. Armstrong, and W. R. Moomaw, "Spin Polarization and Spin-Lattice Relaxation in the Lowest Triplet State of Pyrazine at 1.6 K," in *Excitons, Magonons and Phonons in Molecular Crystals*, A. B. Zahlan, Editor; Cambridge University Press, 1968, p. 125.

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