

Luis R Domingo

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354
papers

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386
ext. papers

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#	Paper	IF	Citations
354	Understanding the reactivity of captodative ethylenes in polar cycloaddition reactions. A theoretical study. <i>Journal of Organic Chemistry</i> , 2008 , 73, 4615-24	4.2	671
353	Quantitative characterization of the global electrophilicity power of common diene/dienophile pairs in Diels-Alder reactions. <i>Tetrahedron</i> , 2002 , 58, 4417-4423	2.4	652
352	Applications of the Conceptual Density Functional Theory Indices to Organic Chemistry Reactivity. <i>Molecules</i> , 2016 , 21,	4.8	475
351	Understanding the local reactivity in polar organic reactions through electrophilic and nucleophilic Parr functions. <i>RSC Advances</i> , 2013 , 3, 1486-1494	3.7	471
350	A new C π bond formation model based on the quantum chemical topology of electron density. <i>RSC Advances</i> , 2014 , 4, 32415-32428	3.7	347
349	Understanding the mechanism of polar Diels-Alder reactions. <i>Organic and Biomolecular Chemistry</i> , 2009 , 7, 3576-83	3.9	346
348	The nucleophilicity N index in organic chemistry. <i>Organic and Biomolecular Chemistry</i> , 2011 , 9, 7168-75	3.9	318
347	Quantitative Characterization of the Local Electrophilicity of Organic Molecules. Understanding the Regioselectivity on Diels-Alder Reactions. <i>Journal of Physical Chemistry A</i> , 2002 , 106, 6871-6875	2.8	313
346	A further exploration of a nucleophilicity index based on the gas-phase ionization potentials. <i>Computational and Theoretical Chemistry</i> , 2008 , 865, 68-72		293
345	Quantitative characterization of the global electrophilicity pattern of some reagents involved in 1,3-dipolar cycloaddition reactions. <i>Tetrahedron</i> , 2003 , 59, 3117-3125	2.4	257
344	Molecular Electron Density Theory: A Modern View of Reactivity in Organic Chemistry. <i>Molecules</i> , 2016 , 21,	4.8	218
343	Understanding the participation of quadricyclane as nucleophile in polar [2sigma + 2sigma + 2pi] cycloadditions toward electrophilic pi molecules. <i>Journal of Organic Chemistry</i> , 2008 , 73, 8791-9	4.2	183
342	New highly asymmetric Henry reaction catalyzed by Cu(II) and a C(1)-symmetric aminopyridine ligand, and its application to the synthesis of miconazole. <i>Chemistry - A European Journal</i> , 2008 , 14, 4725-30	4.8	166
341	A condensed-to-atom nucleophilicity index. An application to the director effects on the electrophilic aromatic substitutions. <i>Computational and Theoretical Chemistry</i> , 2009 , 895, 86-91		164
340	Understanding reaction mechanisms in organic chemistry from catastrophe theory applied to the electron localization function topology. <i>Journal of Physical Chemistry A</i> , 2008 , 112, 7128-36	2.8	147
339	The Joint Use of Catastrophe Theory and Electron Localization Function to Characterize Molecular Mechanisms. A Density Functional Study of the Diels-Alder Reaction between Ethylene and 1,3-Butadiene. <i>Journal of Physical Chemistry A</i> , 2003 , 107, 6014-6024	2.8	134
338	A theoretical study on the regioselectivity of 1,3-dipolar cycloadditions using DFT-based reactivity indexes. <i>Tetrahedron</i> , 2004 , 60, 11503-11509	2.4	128

337	Influence of Reactant Polarity on the Course of the Inverse-Electron-Demand Diels-Alder Reaction. A DFT Study of Regio- and Stereoselectivity, Presence of Lewis Acid Catalyst, and Inclusion of Solvent Effects in the Reaction between Nitroethene and Substituted Ethenes. <i>Journal of Organic Chemistry</i> , 1999 , 64, 5867-5875	4.2	122
336	New findings on the Diels-Alder reactions. An analysis based on the bonding evolution theory. <i>Journal of Physical Chemistry A</i> , 2006 , 110, 13939-47	2.8	114
335	Origin of the synchronicity on the transition structures of polar Diels-Alder reactions. Are these reactions [4 + 2] processes?. <i>Journal of Organic Chemistry</i> , 2003 , 68, 3884-90	4.2	109
334	Unravelling the Mysteries of the [3+2] Cycloaddition Reactions. <i>European Journal of Organic Chemistry</i> , 2019 , 2019, 267-282	3.2	102
333	Understanding the High Reactivity of the Azomethine Ylides in [3 + 2] Cycloaddition Reactions. <i>Letters in Organic Chemistry</i> , 2010 , 7, 432-439	0.6	99
332	Global and local reactivity indices for electrophilic/nucleophilic free radicals. <i>Organic and Biomolecular Chemistry</i> , 2013 , 11, 4350-8	3.9	97
331	An understanding of the electrophilic/nucleophilic behavior of electro-deficient 2,3-disubstituted 1,3-butadienes in polar diels-alder reactions. A density functional theory study. <i>Journal of Physical Chemistry A</i> , 2008 , 112, 4046-53	2.8	92
330	Understanding the mechanisms of [3+2] cycloaddition reactions. The pseudoradical versus the zwitterionic mechanism. <i>Tetrahedron</i> , 2014 , 70, 1267-1273	2.4	83
329	On the nature of Parr functions to predict the most reactive sites along organic polar reactions. <i>Chemical Physics Letters</i> , 2013 , 582, 141-143	2.5	82
328	Density functional theory study of the mechanism of the proline-catalyzed intermolecular aldol reaction. <i>Theoretical Chemistry Accounts</i> , 2002 , 108, 232-239	1.9	82
327	Enhancing reactivity of carbonyl compounds via hydrogen-bond formation. A DFT study of the hetero-Diels-Alder reaction between butadiene derivative and acetone in chloroform. <i>Journal of Organic Chemistry</i> , 2003 , 68, 8662-8	4.2	81
326	Toward an understanding of the unexpected regioselective hetero-Diels-Alder reactions of asymmetric tetrazines with electron-rich ethylenes: a DFT study. <i>Journal of Organic Chemistry</i> , 2009 , 74, 2726-35	4.2	80
325	Theoretical studies on cycloaddition reactions. <i>Journal of Cheminformatics</i> , 2014 , 6,	8.6	78
324	A density functional theory study for the Diels-Alder reaction between N-acyl-1-aza-1,3-butadienes and vinylamines. Lewis acid catalyst and solvent effects. <i>Tetrahedron</i> , 2002 , 58, 3765-3774	2.4	78
323	Density functional theory study of the cycloaddition reaction of furan derivatives with masked o-benzoquinones. Does the furan act as a dienophile in the cycloaddition reaction?. <i>Journal of Organic Chemistry</i> , 2002 , 67, 959-65	4.2	77
322	Understanding the mechanism of non-polar Diels-Alder reactions. A comparative ELF analysis of concerted and stepwise diradical mechanisms. <i>Organic and Biomolecular Chemistry</i> , 2010 , 8, 5495-504	3.9	73
321	A Molecular Electron Density Theory Study of the Reactivity and Selectivities in [3 + 2] Cycloaddition Reactions of C,N-Dialkyl Nitrones with Ethylene Derivatives. <i>Journal of Organic Chemistry</i> , 2018 , 83, 2182-2197	4.2	72
320	Reactivity of the carbon-carbon double bond towards nucleophilic additions. A DFT analysis. <i>Tetrahedron</i> , 2004 , 60, 6585-6591	2.4	72

319	Density Functional Theory Study for the Cycloaddition of 1,3-Butadienes with Dimethyl Acetylenedicarboxylate. Polar Stepwise vs Concerted Mechanisms. <i>Journal of Physical Chemistry A</i> , 2002 , 106, 952-961	2.8	72
318	Describing the Molecular Mechanism of Organic Reactions by Using Topological Analysis of Electronic Localization Function. <i>Current Organic Chemistry</i> , 2011 , 15, 3566-3575	1.7	71
317	Chapter 9 The electrophilicity index in organic chemistry. <i>Theoretical and Computational Chemistry</i> , 2007 , 139-201		71
316	Electronic contributions to the sigma(p) parameter of the Hammett equation. <i>Journal of Organic Chemistry</i> , 2003 , 68, 6060-2	4.2	70
315	Understanding the kinetic solvent effects on the 1,3-dipolar cycloaddition of benzonitrile N-oxide: a DFT study. <i>Journal of Physical Organic Chemistry</i> , 2011 , 24, 611-618	2.1	69
314	An Analysis of the Regioselectivity of 1,3-Dipolar Cycloaddition Reactions of Benzonitrile N-Oxides Based on Global and Local Electrophilicity and Nucleophilicity Indices. <i>European Journal of Organic Chemistry</i> , 2009 , 2009, 3036-3044	3.2	67
313	Understanding the electronic reorganization along the nonpolar [3 + 2] cycloaddition reactions of carbonyl ylides. <i>Journal of Organic Chemistry</i> , 2011 , 76, 373-9	4.2	65
312	Theoretical Study of the 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides. A DFT Study of Reaction between Trifluoromethyl Thiomethyl Azomethine Ylide and Acronitrile. <i>Journal of Organic Chemistry</i> , 1999 , 64, 3922-3929	4.2	65
311	A DFT analysis of the participation of zwitterionic TACs in polar [3+2] cycloaddition reactions. <i>Tetrahedron</i> , 2014 , 70, 4519-4525	2.4	64
310	Stereoselective 1,3-dipolar cycloadditions of a chiral nitron derived from erythrose. An experimental and DFT theoretical study. <i>Journal of Organic Chemistry</i> , 2000 , 65, 7000-9	4.2	61
309	Toward an Understanding of Molecular Mechanism of Domino Cycloadditions. Density Functional Theory Study of the Reaction between Hexafluorobut-2-yne and N,N-Dipyrrolylmethane. <i>Journal of the American Chemical Society</i> , 1998 , 120, 1617-1618	16.4	59
308	A molecular electron density theory study of the participation of tetrazines in aza-Diels-Alder reactions.. <i>RSC Advances</i> , 2020 , 10, 15394-15405	3.7	57
307	Understanding the mechanism of stereoselective synthesis of cyclopentenes via N-heterocyclic carbene catalyzed reactions of enals with enones. <i>Organic and Biomolecular Chemistry</i> , 2010 , 8, 4884-91	3.9	56
306	A DFT study of the Huisgen 1,3-dipolar cycloaddition between hindered thiocarbonyl ylides and tetracyanoethylene. <i>Tetrahedron</i> , 2004 , 60, 5053-5058	2.4	56
305	Understanding the mechanism of the N-heterocyclic carbene-catalyzed ring-expansion of 4-formyl-lactams to succinimide derivatives. <i>Tetrahedron</i> , 2009 , 65, 3432-3440	2.4	55
304	A DFT study of the polar Diels-Alder reaction between 4-aza-6-nitrobenzofuroxan and cyclopentadiene. <i>Tetrahedron</i> , 2005 , 61, 7359-7365	2.4	54
303	How does the global electron density transfer diminish activation energies in polar cycloaddition reactions? A Molecular Electron Density Theory study. <i>Tetrahedron</i> , 2017 , 73, 1718-1724	2.4	52
302	A new model for C-C bond formation processes derived from the Molecular Electron Density Theory in the study of the mechanism of [3+2] cycloaddition reactions of carbenoid nitrile ylides with electron-deficient ethylenes. <i>Tetrahedron</i> , 2016 , 72, 1524-1532	2.4	52

301	1,3-Dipolar cycloadditions of electrophilically activated benzonitrile N-oxides. Polar cycloaddition versus oxime formation. <i>Journal of Organic Chemistry</i> , 2006 , 71, 9319-30	4.2	51
300	Theoretical Study of the Gas Phase Decomposition of Glycolic, Lactic, and 2-Hydroxyisobutyric Acids. <i>Journal of the American Chemical Society</i> , 1997 , 119, 6415-6422	16.4	49
299	A Molecular Electron Density Theory Study of the Reactivity of Azomethine Imine in [3+2] Cycloaddition Reactions. <i>Molecules</i> , 2017 , 22,	4.8	48
298	Complementarity of reaction force and electron localization function analyses of asynchronicity in bond formation in Diels-Alder reactions. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 6726-34	3.6	48
297	Origin of the synchronicity in bond formation in polar Diels-Alder reactions: an ELF analysis of the reaction between cyclopentadiene and tetracyanoethylene. <i>Organic and Biomolecular Chemistry</i> , 2012 , 10, 3841-51	3.9	48
296	The Mysticism of Pericyclic Reactions: A Contemporary Rationalisation of Organic Reactivity Based on Electron Density Analysis. <i>European Journal of Organic Chemistry</i> , 2018 , 2018, 1107-1120	3.2	47
295	A combined experimental and theoretical study of the polar [3 + 2] cycloaddition of electrophilically activated carbonyl ylides with aldehydes and imines. <i>Journal of Organic Chemistry</i> , 2009 , 74, 2120-33	4.2	47
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291	Synthesis of (+)-podocarp-8(14)-en-13-one and methyl-(+)-13-oxo-podocarp-8(14)-en-18-oate from abietic acid. <i>Tetrahedron</i> , 1985 , 41, 4937-4940	2.4	47
290	Understanding local electrophilicity/nucleophilicity activation through a single reactivity difference index. <i>Organic and Biomolecular Chemistry</i> , 2012 , 10, 2855-61	3.9	46
289	Density functional theory study of the Lewis acid-catalyzed Diels-Alder reaction of nitroalkenes with vinyl ethers using aluminum derivatives. <i>Journal of Physical Organic Chemistry</i> , 2002 , 15, 660-666	2.1	46
288	Photoreaction between 2-benzoylthiophene and phenol or indole. <i>Journal of Organic Chemistry</i> , 2003 , 68, 5104-13	4.2	45
287	Understanding the mechanism and regioselectivity of the copper(i) catalyzed [3 + 2] cycloaddition reaction between azide and alkyne: a systematic DFT study.. <i>RSC Advances</i> , 2018 , 8, 7670-7678	3.7	44
286	Theoretical Study of the Elimination Kinetics of Carboxylic Acid Derivatives in the Gas Phase. Decomposition of 2-Chloropropionic Acid. <i>Journal of Physical Chemistry A</i> , 1997 , 101, 1859-1865	2.8	44
285	A bonding evolution theory study of the mechanism of [3+2] cycloaddition reactions of nitrones with electron-deficient ethylenes. <i>RSC Advances</i> , 2015 , 5, 58464-58477	3.7	43
284	Understanding the origin of the asynchronicity in bond-formation in polar cycloaddition reactions. A DFT study of the 1,3-dipolar cycloaddition reaction of carbonyl ylides with 1,2-benzoquinones. <i>RSC Advances</i> , 2012 , 2, 1334-1342	3.7	43

283	Understanding the regioselectivity in hetero Diels-Alder reactions. An ELF analysis of the reaction between nitrosoethylene and 1-vinylpyrrolidine. <i>Tetrahedron</i> , 2013 , 69, 107-114	2.4	43
282	Nonlocal (Pair Site) Reactivity from Second-Order Static Density Response Function: Gas- and Solution-Phase Reactivity of the Acetaldehyde Enolate as a Test Case. <i>Journal of Physical Chemistry A</i> , 1999 , 103, 1367-1375	2.8	43
281	Understanding the mechanism of the Povarov reaction. A DFT study. <i>RSC Advances</i> , 2014 , 4, 25268	3.7	41
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279	Biosynthesis of the Brevianamides. An ab Initio Study of the Biosynthetic Intramolecular Diels-Alder Cycloaddition. <i>Journal of Organic Chemistry</i> , 1997 , 62, 1662-1667	4.2	41
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277	Toward an understanding of the catalytic role of hydrogen-bond donor solvents in the hetero-Diels-Alder reaction between acetone and butadiene derivative. <i>Journal of Physical Chemistry A</i> , 2005 , 109, 10438-44	2.8	40
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271	Studies on the biosynthesis of paraherquamide A and VM99955. A theoretical study of intramolecular Diels-Alder cycloaddition. <i>Journal of Organic Chemistry</i> , 2003 , 68, 2895-902	4.2	37
270	A theoretical study of the reaction between cyclopentadiene and protonated imine derivatives: a shift from a concerted to a stepwise molecular mechanism. <i>Journal of Organic Chemistry</i> , 2001 , 66, 6151-7 ²	4.2	37
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266	A DFT study of the Diels-Alder reaction between methyl acrolein derivatives and cyclopentadiene. Understanding the effects of Lewis acids catalysts based on sulfur containing boron heterocycles. <i>Tetrahedron</i> , 2006 , 62, 5502-5509	2.4	35

- 265 The domino reaction between 4,6-dinitrobenzofuroxan and cyclopentadiene. Insights on the nature of the molecular mechanism. *Computational and Theoretical Chemistry*, **2004**, 709, 45-52 35
- 264 Density functional theory study of the 5-pyrrolidin-2-yltetrazole-catalyzed aldol reaction. *Tetrahedron: Asymmetry*, **2005**, 16, 2764-2770 35
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- 262 Theoretical Study of the Mechanisms for the Alkoxyacetic Acids Decomposition. *Journal of Physical Chemistry A*, **1999**, 103, 3935-3943 2.8 33
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- 260 Understanding the polar mechanism of the ene reaction. A DFT study. *Organic and Biomolecular Chemistry*, **2014**, 12, 7581-90 3.9 31
- 259 Understanding the regio- and chemoselective polar [3+2] cycloaddition of the Padwa carbonyl ylides with β -methylene ketones. A DFT study. *Tetrahedron*, **2009**, 65, 4644-4651 2.4 31
- 258 A DFT Characterization of the Mechanism for the Cycloaddition Reaction between 2-Methylfuran and Acetylenedicarboxylic Acid. *Journal of Physical Chemistry A*, **1999**, 103, 11425-11430 2.8 31
- 257 Theoretical Study of the Reaction of Dimethyl Acetylenedicarboxylate with 1-Methyl-2-(1-substituted vinyl)pyrroles. *Tetrahedron*, **1995**, 51, 8739-8748 2.4 31
- 256 Understanding the mechanism of the intramolecular stetter reaction. A DFT study. *Molecules*, **2012**, 17, 1335-53 4.8 30
- 255 Ab Initio Study of Stereo- and Regioselectivity in the Diels-Alder Reaction between 2-Phenylcyclopentadiene and β (Methylthio)acrylonitrile. *Journal of Organic Chemistry*, **1997**, 62, 1775-1778 4.2 30
- 254 A DFT study of the asymmetric (S)-5-(pyrrolidin-2-yl)-1H-tetrazole catalyzed Michael addition of carbonyl compounds to nitroalkenes. *Tetrahedron: Asymmetry*, **2007**, 18, 157-164 30
- 253 On Transition Structures for Hydride Transfer Step: A Theoretical Study of the Reaction Catalyzed by Dihydrofolate Reductase Enzyme. *Bioorganic Chemistry*, **1996**, 24, 10-18 5.1 30
- 252 Theoretical study of the solvent effects on the mechanisms of addition of dimethyl acetylenedicarboxylate to 1-methyl-2-vinylpyrrole. *Tetrahedron*, **1996**, 52, 10693-10704 2.4 30
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- 250 Controlled rearrangement of lactam-tethered allenols with brominating reagents: a combined experimental and theoretical study on β versus β keto lactam formation. *Chemistry - A European Journal*, **2011**, 17, 11559-66 4.8 29
- 249 Toward an understanding of the acceleration of Diels-Alder reactions by a pseudo-intramolecular process achieved by molecular recognition. A DFT study. *Journal of Organic Chemistry*, **2007**, 72, 4220-7 4.2 29
- 248 Experimental and theoretical study on the substitution reactions of aryl 2,4-dinitrophenyl carbonates with quinuclidines. *Tetrahedron*, **2006**, 62, 2555-2562 2.4 29

247	A DFT study for the regioselective 1,3-dipolar cycloadditions of nitrile N-oxides toward alkynylboronates. <i>Tetrahedron</i> , 2003 , 59, 9167-9171	2.4	29
246	Effect of electron-withdrawing substituents on the electrophilicity of carbonyl carbons. <i>Tetrahedron</i> , 2005 , 61, 417-422	2.4	29
245	Stereoselection Parameters and Theoretical Model in the Enantioselective Protonation of Enolates with β -Sulfinyl Alcohols. <i>Journal of Organic Chemistry</i> , 1998 , 63, 9342-9347	4.2	29
244	Unveiling the Reactivity of Cyclic Azomethine Ylides in [3+2] Cycloaddition Reactions within the Molecular Electron Density Theory. <i>European Journal of Organic Chemistry</i> , 2020 , 2020, 5938-5948	3.2	29
243	A DFT study on the NHC catalysed Michael addition of enols to β -unsaturated acyl-azoliums. A base catalysed C-C bond-formation step. <i>Organic and Biomolecular Chemistry</i> , 2014 , 12, 895-904	3.9	28
242	A combined experimental and theoretical study of the thermal cycloaddition of aryl azides with activated alkenes. <i>Organic and Biomolecular Chemistry</i> , 2011 , 9, 4295-305	3.9	28
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239	Diastereomeric differentiation in the quenching of excited states by hydrogen donors. <i>Angewandte Chemie - International Edition</i> , 2003 , 42, 2531-4	16.4	27
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237	Understanding the nature of the molecular mechanisms associated with the competitive Lewis acid catalyzed [4+2] and [4+3] cycloadditions between arylidenoxazolone systems and cyclopentadiene: a DFT analysis. <i>Chemistry - A European Journal</i> , 2004 , 10, 4742-9	4.8	26
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233	Mechanistic details of the domino reaction of nitronaphthalenes with the electron-rich dienes. A DFT study. <i>Computational and Theoretical Chemistry</i> , 2008 , 853, 68-76		25
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231	A Molecular Electron Density Theory Study of the Role of the Copper Metalation of Azomethine Ylides in [3 + 2] Cycloaddition Reactions. <i>Journal of Organic Chemistry</i> , 2018 , 83, 10959-10973	4.2	24
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228	A DFT Study of Inter- and Intramolecular Aryne Ene Reactions. <i>European Journal of Organic Chemistry</i> , 2015 , 2015, 2826-2834	3.2	23
227	Synthesis of densely functionalised 5-halogen-1,3-oxazin-2-ones by halogen-mediated regioselective cyclisation of N-Cbz-protected propargylic amines: a combined experimental and theoretical study. <i>Chemistry - A European Journal</i> , 2013 , 19, 14852-60	4.8	23
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