Scientific Papers of Ivan Gutman

(1251 — 1404)

as on June 17, 2018

1404. S. Akbari, A. H. Ghodrati, I. Gutman, M. A. Hosseinzadeh, E. V. Konstantinova
(4 VI 2018)
On path energy of graphs
MATCH Communications in Mathematical and in Computer Chemistry, in press.

Comparing Laplacian energy and Kirchhoff index
MATCH Communications in Mathematical and in Computer Chemistry, in press.

1402. I. Gutman, M. Ascioglu, I. N. Cangul (23 IV 2018)
Multiplicative geometric–arithmetic index
International Journal of Applied Graph Theory, in press.

Harmonic index and its generalizations: Extremal results and bounds
MATCH Communications in Mathematical and in Computer Chemistry, in press.

1400. A. Ghalavand, A. Ashrafi, I. Gutman (6 III 2018)
New upper and lower bounds for some degree-based graph invariants
Kragujevac Journal of Mathematics, in press.

1399. I. Gutman, T. Réti (23 II 2018)
Note on irregular graphs

Average degree-eccentricity energy of graphs

1397. Y. Ma, S. Cao, Y. Shi, I. Gutman, M. Dehmer, B. Furtula (11 II 2018)
From the connectivity index to various Randić-type descriptors

1396. K. Xu, X. Gu, I. Gutman (10 II 2018)
Relations between total irregularity and non-self-centrality of graphs
Applied Mathematics and Computation, in press.

1395. B. Furtula, K. C. Das, I. Gutman (3 II 2018)
Comparative analysis of symmetric division deg index as potentially useful molecular descriptor

Extremal graphs for the second multiplicative Zagreb index

Degree–based energies of graphs
Linear Algebra and Its Applications 554 (2018) 185–204.

Graphs with maximal σ irregularity
Discrete Applied Mathematics, in press.

On Laplacian energy, Laplacian–energy–like invariant and Kirchhoff index of graphs
Laplacian sum-eccentricity energy of a graph

1389. A. Ali, I. Gutman, E. Milovanović, I. Milovanović (18 XI 2017)
Sum of powers of the degrees of graphs: Extremal results and bounds
MATCH Communications in Mathematical and in Computer Chemistry 80 (2018) 5–84.

1388. X. Li, W. So, I. Gutman (1 XI 2017)
Constructions of graphs and trees with partially prescribed spectrum
MATCH Communications in Mathematical and in Computer Chemistry 80 (2018) 415–421.

Seidel signless Laplacian energy of graphs

1386. I. Gutman, E. Milovanović, I. Milovanović (18 IX 2017)
Beyond the Zagreb indices

Hyper–Wiener and Wiener polarity indices of silicate and oxide frameworks

1384. I. Gutman (27 VIII 2017)
Stepwise irregular graphs

Seidel Laplacian energy of graphs
International Journal of Applied Graph Theory 1(2) (2017) 74–82.

Inverse problem for sigma index
MATCH Communications in Mathematical and in Computer Chemistry 79 (2018) 491–508.

1381. I. Gutman, I. Milovanović, E. Milovanović (20 VII 2017)
Relations between ordinary and multiplicative degree–based topological indices
Filomat, in press.

1380. C. Xu, L. Ge, Y. Zhang, M. Dehmer, I. Gutman (14 VII 2017)
Computational prediction of therapeutic peptides based on graph index

Zagreb energy and Zagreb Estrada index of graphs

1378. I. Gutman, B. Furtula (15 VI 2017)
The total π-electron energy saga

On leap Zagreb indices of graphs

1376. I. Gutman, B. Furtula, V. Katanić (24 V 2017)
Randić index and information

1375. B. Furtula, I. Gutman (23 V 2017)
Borderenergetic graphs of order 12
1374. I. Gutman (26 IV 2017)
General theory of cycle-dependence of total π-electron energy

On path eigenvalues and path energy of graphs
MATCH Communications in Mathematical and in Computer Chemistry 79 (2018)
387–398.

1372. I. Gutman (31 III 2017)
On borderenergetic graphs

Total domination and open packing in some chemical graphs

1370. I. Gutman, V. R. Kulli, B. Chaluvaraju, H. S. Boregowda (1 II 2017)
On Banhatti and Zagreb indices

1369. I. Gutman (11 I 2017)
On two Laplacian-spectrum-based graph invariants and their relation. A review

On the maximum ABC index of graphs without pendent vertices

Bounds for Zagreb indices
MATCH Communications in Mathematical and in Computer Chemistry 78 (2017)
17–100.

1366. I. Gutman, Z. You, M. Huang (30 XII 2016)
Inequalities between Kirchhoff index and Laplacian-energy-like invariant
in the book: I. Gutman, B. Furtula, K. C. Das, E. Milovanović, I. Milovanović (Eds.),
Bounds in Chemical Graph Theory – Mainstreams, Univ. Kragujevac, Kragujevac,

1365. I. Gutman (29 XII 2016)
Relation between energy and extended energy of a graph

1364. I. Ž. Milovanović, E. I. Milovanović, I. Gutman, B. Furtula (26 XII 2016)
Some inequalities for the forgotten topological index

1363. K. C. Das, S. Balachandran, I. Gutman (8 XII 2016)
Inverse degree, Randić index and harmonic index of graphs

1362. I. Gutman, B. Furtula, K. C. Das (5 XII 2016)
Extended energy and its dependence on molecular structure

Strain in strain-free benzenoid hydrocarbons: The case of fibonacenes

1360. I. Gutman (27 XI 2016)
On coindices of graphs and their complements
1359. I. Gutman (25 XI 2016)  
On hyper-Zagreb index and coindex  

Protein sequence comparison based on physicochemical properties and the position–feature energy matrix  

Zagreb indices: Bounds and extremal graphs  
in the book: I. Gutman, B. Furtula, K. C. Das, E. Milovanović, I. Milovanović (Eds.),  
*Bounds in Chemical Graph Theory – Basics*, Univ. Kragujevac, Kragujevac, 2017,  

1356. I. Gutman, B. Furtula, A. Farrugia, I. Sciriha (22 IX 2016)  
Constructing NSSD molecular graphs  

1355. I. Gutman, S. Li, W. Wei (10 IX 2016)  
Cacti with \(n\)-vertices and \(t\) cycles having extremal Wiener index  

1354. M. Zhang, S. Li, I. Gutman (9 IX 2016)  
Connectivity, diameter, independence number and the distance spectral radius of graphs  

1353. Selected Theorems in Chemical Graph Theory  
Faculty of Science & University, Kragujevac, 2017, pp. VII+168.

On general first Zagreb index of graphs with fixed maximum degree  

Generalizations of Szőkefalvi Nagy and Chebyshev inequalities with applications in spectral graph theory  

On spectral radius and energy of extended adjacency matrix of graphs  

Relations between degrees, conjugate degrees and graph energies  

Some results for the (signless) Laplacian resolvent  
*MATCH Communications in Mathematical and in Computer Chemistry* 77 (2017) 105–114.

Steiner degree distance  
*MATCH Communications in Mathematical and in Computer Chemistry* 78 (2017) 221–230.

1346. K. C. Das, S. Elumalai, I. Gutman (27 V 2016)  
On ABC index of graphs  
*MATCH Communications in Mathematical and in Computer Chemistry* 78 (2017) 459–468.
1345. K. C. Das, S. Sun, I. Gutman (23 V 2016)
Normalized Laplacian eigenvalues and Randić energy of graphs
MATCH Communications in Mathematical and in Computer Chemistry 77 (2017) 45–59.

1344. M. A. Boutiche, H. Belbachir, I. Gutman (12 V 2016)
Merrifield–Simmons and Hosoya index of thorn–regular graphs

1343. H. S. Ramane, V. V. Manjalapur, I. Gutman (10 V 2016)
General sum-connectivity index, general product-connectivity index, general Zagreb index and coindices of line graph of subdivision graphs

1342. Y. Mao, Z. Wang, I. Gutman, H. Li (7 V 2016)
Nordhaus–Gaddum–type results for the Steiner Wiener index of graphs

On common neighborhood graphs II

Graphs with smallest forgotten index

Extending the McClelland formula for total π-electron energy

On harmonic index of trees
MATCH Communications in Mathematical and in Computer Chemistry 78 (2017) 405–416.

1337. I. Gutman, B. Furtula (14 III 2016)
Survey of graph energies

1336. I. Ž. Milovanović, E. I. Milovanović, I. Gutman (6 III 2016)
Upper bounds for some graph energies

1335. I. Gutman, B. Furtula, K. C. Das (28 II 2016)
On some degree–and–distance–based graph invariants of trees

1334. I. Gutman (26 II 2016)
On two degree-and-distance-based graph invariants

1333. I. Gutman, I. Gültekin, B. Şahin (15 II 2016)
On Merrifield–Simmons index of molecular graphs

1332. I. Gutman (10 II 2016)
Irregularity of molecular graphs

1331. B. Horoldagva, L. Buyantogtokh, S. Dorjembe, I. Gutman (8 II 2016)
Maximum size of maximally irregular graphs
MATCH Communications in Mathematical and in Computer Chemistry 76 (2016) 81–98.
Total π-electron and HOMO energy

Strain in strain–free benzenoid hydrocarbons: The case of chrysene and triphenylene

1328. W. Liu, Q. Guo, Y. Zhang, L. Feng, I. Gutman (29 I 2016)
Further results on the largest matching root of unicyclic graphs

1327. I. Gutman (11 I 2016)
On Steiner degree distance of trees

1326. B. Deng, X. Li, I. Gutman (3 I 2016)
More on borderenergetic graphs

1325. L. Yu, Y. Zhang, G. Jian, I. Gutman (3 I 2016)
Classification for microarray data based on K-means clustering combined with modified single-to-noise-ratio based on graph energy

Steiner Wiener index of graph products

Resolvent energy of unicyclic, bicyclic and tricyclic graphs
MATCH Communications in Mathematical and in Computer Chemistry 77 (2017) 95–104.

On energy of line graphs
Linear Algebra and Its Applications 499 (2016) 79–89.

On ordering of complements of graphs with respect to matching numbers

On the maximal energy of integral weighted trees with fixed total weight sum
MATCH Communications in Mathematical and in Computer Chemistry 76 (2016) 615–633.

1319. B. Furtula, I. Gutman, V. Katanić (18 XI 2015)
Three–center Harary index and its applications

1318. J. Đurđević Nikolić, I. Gutman (10 XI 2015)
A comparative study of isomers of bicalicene

1317. I. Gutman (25 X 2015)
Total π-electron energy of conjugated molecules with non-bonding molecular orbitals

Resolvent Estrada index of cycles and paths
1315. I. Gutman, I. Triantafillou (27 IX 2015)  
Dependence of graph energy on nullity. A case study  
*MATCH Communications in Mathematical and in Computer Chemistry* **76** (2016) 761–769.

On extremal trees with respect to the $F$-index  

Laplacian energy of union and Cartesian product and Laplacian equienergetic graphs  

On energy and Laplacian energy of bipartite graphs  

1311. X. Li, Y. Mao, I. Gutman (16 IX 2015)  
Inverse problem on the Steiner Wiener index  

Graphs with maximum Laplacian–energy–like invariant and incidence energy  
*MATCH Communications in Mathematical and in Computer Chemistry* **75** (2016) 331–342.

1309. B. Furtula, I. Gutman, K. C. Das (1 IX 2015)  
On atom–bond connectivity molecular structure descriptors  

1308. I. Gutman (20 VIII 2015)  
Stability of bicalicene isomers – a topological study  

Comparison between atom–bond connectivity indices of graphs  

On Wiener and multiplicative Wiener indices of graphs  

A kernel–based clustering method for gene selection with gene expression data  

1304. I. Gutman (VII 2015)  
Matching energy  
in the book: I. Gutman, X. Li (Eds.), *Graph Energies – Theory and Applications*,  

Resolvent energy  
in the book: I. Gutman, X. Li (Eds.), *Graph Energies – Theory and Applications*,  

1302. I. Gutman (20 VII 2015)  
A survey on the matching polynomial  
in the book: Y. Shi, M. Dehmer, X. Li, I. Gutman (Eds.), *Graph Polynomials*, CRC  

Relations between distance–based and degree–based topological indices  
ABC index of trees with fixed number of leaves 
MATCH Communications in Mathematical and in Computer Chemistry 74 (2015) 
697–701.

1299. I. Gutman, B. Furtula, E. Zogić, E. Glogić (8 VI 2015) 
Resolvent energy of graphs 
MATCH Communications in Mathematical and in Computer Chemistry 75 (2016) 
279–290.

1298. I. Gutman (31 V 2015) 
Open problems for equienergetic graphs 

1297. I. Gutman (27 V 2015) 
Edge-decomposition of topological indices 

On maximal energy of trees with fixed weight sequence 
MATCH Communications in Mathematical and in Computer Chemistry 75 (2016) 
267–278.

2015) 
On an old/new degree-based topological index 

1294. S. Pirzada, H. A. Ganie, I. Gutman (31 III 2015) 
Comparison between Laplacian-energy-like invariant and Kirchhoff index 

On second Zagreb index and coindex of some derived graphs 

On Laplacian energy in terms of graph invariants 

Zagreb indices of generalized transformation graphs and their complements 

Resolvent Estrada index – computational and mathematical studies 
MATCH Communications in Mathematical and in Computer Chemistry 74 (2015) 
431–440.

1289. I. Gutman, M. Robbiano, B. San Martín (28 II 2015) 
Upper bound on Randić energy of some graphs 

Seidel energy of iterated line graphs of regular graphs 

1287. I. Gutman, B. Furtula, X. Li (26 I 2015) 
Multicenter Wiener indices and their applications 

Strain in strain-free benzenoid hydrocarbons: The case of phenanthrene 
1285. I. Gutman, J. Lu, M. A. Boutiche (14 I 2015)
On distance in complements of graphs

1284. I. Gutman, S. Radenković (12 I 2015)

On Zagreb indices and coindices
MATCH Communications in Mathematical and in Computer Chemistry 74 (2015) 5–16.

Which tree has the smallest \( ABC^2 \) index among trees with \( k \) leaves?

1281. X. Li, Y. Mao, I. Gutman (27 XII 2014)
The Steiner Wiener index of a graph

1280. H. S. Ramane, K. C. Nandeesh, I. Gutman, X. Li (19 XII 2014)
Skew equienergetic digraphs

1279. S. Gong, X. Li, G. Xu, I. Gutman, B. Furtula (16 XII 2014)
Borderenergetic graphs

1278. X. Li, Z. Qin, M. Wei, I. Gutman, M. Dehmer (14 XII 2014)
Novel inequalities for generalized graph entropies – Graph energies and topological indices

1277. I. Gutman, B. Furtula, X. Chen, J. Qian (2 XII 2014)
Graphs with smallest resolvent Estrada indices

1276. B. Furtula, I. Gutman (6 XI 2014)
A forgotten topological index

1275. J. Du, G. Su, J. Tu, I. Gutman (6 XI 2014)
The degree resistance distance of cacti

1274. S. Pirzada, H. A. Ganie, I. Gutman (13 X 2014)
On Laplacian–energy–like invariant and Kirchhoff index
MATCH Communications in Mathematical and in Computer Chemistry 73 (2015) 41–60.

Graphs with maximum Laplacian and signless Laplacian Estrada index

1272. S. M. Hosamani, I. Gutman (3 IX 2014)
Zagreb indices of transformation graphs and total transformation graphs

1271. I. Gutman (24 VIII 2014)
Altan derivatives of graphs
1270. I. Gutman (16 VIII 2014)  
An exceptional property of the first Zagreb index  
*MATCH Communications in Mathematical and in Computer Chemistry* 72 (2014) 733–740.

1269. S. Radenković, I. Gutman, M. Antić (31 VII 2014)  
A case of breakdown of the Pauling bond order concept  

Graphs with fixed number of pendent vertices and minimal first Zagreb index  

A combined technique for computation of energy–effect of cycles in conjugated molecules  

1266. I. Gutman (19 VI 2014)  
Topological properties of altan–benzenoid hydrocarbons  

1265. I. Gutman, E. A. Martins, M. Robbiano, B. San Martín (3 VI 2014)  
Ky Fan theorem applied to Randić energy  

1264. R. Cruz, I. Gutman, J. Rada (V 2014)  
Topological indices of Kragujevac trees  

Disproving a conjecture on trees with minimal atom–bond connectivity index  
*MATCH Communications in Mathematical and in Computer Chemistry* 72 (2014) 685–698.

1262. G. Su, L. Xiong, I. Gutman, L. Xu (26 V 2014)  
Reciprocal product–degree distance of graphs  

Nucleosome positioning based on information content  
*MATCH Communications in Mathematical and in Computer Chemistry* 72 (2014) 551–562.

1260. I. Gutman (27 IV 2014)  
Frank model with limited resources  

1259. I. Gutman (25 IV 2014)  
On the origin of two degree–based topological indices  

1258. I. Gutman (23 IV 2014)  
Kragujevac trees and their energy  

1257. G. Britto Antony Xavier, E. Suresh, I. Gutman (21 IV 2014)  
Counting relations for general Zagreb indices  

Chemical graphs constructed of composite graphs and their q-Wiener index  
*MATCH Communications in Mathematical and in Computer Chemistry* 72 (2014) 807–823.
1255. I. Gutman, T. Réti (2 III 2014)
Zagreb group indices and beyond

1254. I. Gutman, E. Milovanović, I. Milovanović (24 II 2014)
Bounds for Laplacian–type graph energies

1253. K. C. Das, S. Sorgun, I. Gutman (17 II 2014)
On Randić energy

1252. I. Gutman (14 II 2014)
Topological resonance energy 40 years later

1251. M. Goubko, I. Gutman (11 II 2014)
Degree–based topological indices: Optimal trees with given number of pendants