

Dr. Sumanta Bhattacharya

Professor

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➤ **A. Academic career:**

M.Sc., The University of Burdwan, Burdwan (West Bengal);

Ph.D. The University of Burdwan, Burdwan (West Bengal);

➤ **B. Post-Doctoral Research Experience**

Research Associate under C.S.I.R (New Delhi), The University of Burdwan, Burdwan - 713104
(2004-2005);

JSPS postdoctoral fellow, Shiga University of Medical Science, Seta, Otsu, Japan-520 2192
(2005-2007);

➤ **C. Professional Experience:**

(a) Joined IIT Guwahati as an Assistant Professor in Feb. 2007 and served IIT until 31st August, 2007.

(b) Joined The University of Burdwan as a Reader in Department of Chemistry in September 2007.

(c) Currently working as Professor since September 2013.

(d) Head, Department of Chemistry, The University of Burdwan from 01-09-2016 to 31-12-2018.
&

(e) Librarian (In-Charge), Central Library, The University of Burdwan from 31-08-2018 to till
Date.

➤ **D. Award/Honours Received:**

(i) Senior Editor under the Sub-Section *Fluorescence* under section *Spectroscopy* for the journal *Science Letters* in 2015.

- (ii) William J. Acree award from COGNIZURE in 2015 for outstanding research in Physical Chemistry.
- (iii) UGC Research Award in 2014.
- (iv) Obtained certificate of appreciation from American Chemical Society in 2011 and 2013.
- (v) DAE Young Scientist Research Award in 2010.
- (vi) JSPS post-doctoral fellowship award in 2005.
- (vii) S. R. Palit Young Scientist Award obtained from Indian Chemical Society in 2003.

➤ **E. Delivered Invited Talk at International/National Level Seminar/Conference/Refresher Course: > 25.**

➤ **F. Research Career:**

- (a) No. of papers published in International/National journals: **116 (Kindly see ANNEXURE-I).**

(In International journal: **113**; in National journal: **03**)

Published papers in journals like *Nature Nanotechnology* (01), *Chemical Communications* (01), *Journal of Molecular Liquids* (14), *RSC Advances* (02), *Journal of Physical Chemistry A* (08), *Journal of Physical Chemistry B* (04), *Chemical Physics Letters* (11), *Chemical Physics* (01), *Spectrochimica Acta Part A* (51), *Journal of Molecular Structure* (05), *Journal of Porphyrin and Phthalocyanine* (01), *Journal of Solution Chemistry* (04), *Indian Journal of Chemistry* (01), *Science Letters* (01) & Others (11).

- (b) Total no. of citations: **1566.**

(c) h-index: **21** (Author ID: <http://orcid.org/0000-0001-7177-1409>)

(d) No. of Ph.D. awarded under supervision: **06**

(e) No. of Research Scholars (at present): **01** (One Ph.D. student).

➤ **G. Research Interests:**

- (i) Energy and/ electron transfer phenomenon in Quantum Dots-Porphyrinoids system;
- (ii) Supramolecular Photochemistry of Fullerenes and Functionalized Fullerenes with macrocyclic Receptor Molecules like Porphyrins, Porphyrazines and Phthalocyanines in Solution;
- (iii) Electron Transfer and/ Energy Transfer Phenomenon on Electron Donor Acceptor (EDA) Complexes of Fullerenes in Solution;
- (iv) Physicochemical Insights on Role of Gold and Silver Nanoparticles in Supramolecular

- Assembly Comprising Fullerene-Porphyrin and Fullerene-Phthalocyanine in Solution;
- (v) Host-Guest Chemistry of Fullerenes with Calixarenes, Naphthracrown and Resorcinarens in solution;
- (vi) Ground and Excited State Quantum Chemical Calculations on EDA or Charge Transfer Complexes in *vacuo* and, also in solution.

➤ **H. Member of any Chemical Society/Scientific Body:**

- (i) Life member of Indian Chemical Society having Life membership No. F/7018 (2009).
- (ii) Life membership of Chemical Research Society of India (LM 2744).

➤ **I. List of completed and ongoing projects:**

Completed Project: **08**

List of ongoing and completed projects giving the following details

Project title	Starting date	Completion Date	Sponsoring Organization
Photophysical and theoretical investigations on molecular complexation between fullerenes and Phthalocyanines.	04-01-2008	03-01-2011	DST, New Delhi.
UV-Vis, fluorescence, NMR and quantum chemical investigation on non-covalently linked mono- and diporphyrin complexes of C ₆₀ , C ₇₀ and some of their derivatives.	01-02-2009	31-01-2012	UGC, New Delhi
Photophysical investigations on formation of gold and silver nanoparticles in a noncovalent assembly comprising fullerenes and diporphyrins.	01-09-2010	31-08-2014	Department of Atomic Energy, BRNS, Mumbai
Spectroscopic and theoretical insights on supramolecular interaction of porphyrin and phthalocyanine with functionalized fullerenes having possible application in organic photovoltaics.	25-05-2012	31-12-2015	DST, New Delhi.
Photophysical investigations on self assembly of fullerenes and Phthalocyanines in presence of gold and silver nanoparticles in solution.	01-05-2013	30-06-2016	CSIR, New Delhi
Spectroscopic and theoretical insights into photo-induced energy and/electron transfer phenomena between fullerenes (or functionalized fullerenes) and porphyrazines.	27-01-2014	26-01-2016	UGC Research Award, New Delhi

Photophysical Insights on Fullerene-Porphyrine-Quantum Dot Interaction in Solution at Ground and Excited State.	14-04-2016	31-07-2019	SERB-DST, New Delhi
Design and photophysical characterization of artificial photosynthetic systems consisting functionalized fullerenes and porphyrinoids clicked through non-covalent approach	01-01-2017	31-12-2020	WB-DST

ANNEXURE – I (*List of papers published in SCI Journals, in year wise descending order*)

SL. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
116	A. Ray, <u>S. Bhattacharya*</u> , <u>S. Banerjee</u>	Photophysical insights on quantum dots-zinc porphyrine system studied in solution	J. Ind. Chem. Soc. (Special Issue)	98	10068	2021
115	S. Nayak, A. Ray*, <u>S. Bhattacharya*</u>	Size selective supramolecular interaction upon molecular complexation of a designed porphyrin with C ₆₀ and C ₇₀ in solution	J. Mol. Liq.	321	114367	2021
114	A. Ray* and <u>S. Bhattacharya*</u>	Study of alloyed quantum dots-porphyrine interaction in solution.	J. Mol. Liq.	299	112168	2020
113	A. Ray, <u>S. Bhattacharya*</u> and A. Bauri.	Exhibition of Förster resonance energy transfer from CdSe/ZnS quantum dots to zinc porphyrine studied in solution.	J. Mol. Liq.	276	770	2019
112	S. Nayak, A. Ray*, <u>S. Bhattacharya*</u> , A. Bauri and S. Banerjee	Photophysical insights on a new supramolecular recognition element comprising PyC ₆₀ and a bisporphyrin studied in solution.	J. Mol. Liq.	290	110842	2019
111	S. Nayak, S. Paul, A. Bauri, A. Ray* and <u>S. Bhattacharya*</u> .	Molecular assembly of PC ₇₀ BM with a designed monoporphyrin: Spectroscopic investigations in solution and theoretical calculations.	J. Mol. Liq.	272	137	2018
110	A. Ray, A. Bauri and <u>S. Bhattacharya*</u> .	Study of chemical physics on energy transfer phenomenon between quantum dots and a designed diporphyrin in solution.	J. Mol. Liq.	263	64	2018
109	A. Ray and <u>S.</u>	Molecular complexation	J. Mol. Liq.	254	291	2018

	<u>Bhattacharya*</u> .	between PCBM and porphyrine in solution: A case study of non-covalent interaction.				
108	A. Ray, A. De and <u>S. Bhattacharya*</u> .	Study of energy transfer phenomenon between quantum dots and zinc porphyrin in solution.	J. Mol. Liq.	246	17	2017
107	A. Ray and <u>S. Bhattacharya*</u> .	Photophysical insights behind zinc naphthalocyanine-gold nanoparticle interaction and its effect over supramolecular interaction between zinc naphthalocyanine and PyC ₆₀ in solution.	J. Mol. Liq.	232	188	2017
106	A. Ray, S. Banerjee, S. Ghosh, A. K. Bauri and <u>S. Bhattacharya*</u>	Chemical physics behind formation of efficient charge separated state of complexation between PC ₇₀ BM and designed diporphyrin in solution.	Spectrochim. Acta Part A	152	64	2016
105	A. Ray, K. Kundu, K. Kundu, S. K. Nayak and <u>S. Bhattacharya*</u>	Spectroscopic and theoretical insights on non-covalent interaction between fullerenes and Xantheno-linked benzo-15-crown-5 receptor in solution.	J. Mol. Liq.	220	92	2016
104	A. Ray, S. Banerjee, A. K. Bauri and <u>S. Bhattacharya*</u>	Chemical physics behind formation of effective and selective non-covalent interaction between fullerenes (C ₆₀ and C ₇₀) and a designed chiral monoporphyrin in solution.	Chem. Phys. Lett.	646	119	2016
103	A. Ray and <u>S. Bhattacharya*</u>	Spectroscopic insights on energy transfer phenomenon from phthalocyanine to gold nanoparticle and role of phthalocyanine-goldnanoparticle conjugate over supramolecular interaction between fullerene and phthalocyanine in solution.	Chem. Phys. Lett.	651	66	2016
102	A. Ray, A. Bauri, <u>S. Bhattacharya*</u> .	Absorption spectrophotometric, fluorescence and quantum chemical investigations on non-covalent interaction	Spectrochim. Acta Part A	134	566	2015

		between PC ₇₀ BM and designed diporphyrin in solution.				
101	A. Ray, K. Santhosh and <u>S. Bhattacharya*</u>	Spectroscopic and structural insights on molecular assembly consisting high potential zinc phthalocyanine photosensitizer attached to PyC ₆₀ through non-covalent interaction.	Spectrochim. Acta Part A	135	386	2015
100	D. Pal, K. Kundu, S. K. Nayak and <u>S. Bhattacharya*</u> .	PyC ₆₀ -naphthacrown system: A new supramolecular recognition element.	Spectrochim. Acta Part A	138	958	2015
99	A. Ray, H. Pal and <u>S. Bhattacharya*</u> .	Photophysical insights on fullerene-porphyrazine supramolecular interaction in solution.	RSC Adv. (Communication)	5	28497	2015
98	A. Ray, H. Pal, V. Ramanan, <u>S. Bhattacharya*</u> ,	New photophysical insights on effect of gold nanoparticles on the interaction between phthalocyanine and PC ₇₀ BM in solution.	Spectrochim. Acta Part A	150	992	2015
97	A. Ray and <u>S. Bhattacharya*</u> .	Chemical physics behind phthalocyanine-gold nanoparticle interaction and its effect over supramolecular interaction between PC ₇₀ BM and phthalocyanine in solution.	Chem. Phys. Lett.	639	183	2015
96	B. K. Ghosh, A. Bauri and <u>S. Bhattacharya*</u> and S. Banerjee*.	Photophysical investigations on effective and selective complexation of a designed monoporphyrin with C ₆₀ and C ₇₀ in solution.	Spectrochim. Acta Part A	125	90	2014
95	A. Mandal, K. Santhosh, A. Bauri and <u>S. Bhattacharya*</u> .	Role of charge transfer interaction and the chemical physics behind effective fulleropyrrolidine/porphyrin non-covalent interaction in solution.	Spectrochim. Acta Part A	121	559	2014
94	A. Ray, H. Pal and <u>S. Bhattacharya*</u> .	Photophysical investigations on supramolecular fullerene/phthalocyanine charge transfer interactions in solution.	Spectrochim. Acta Part A	117	686	2014
93	R. Mitra, A. K. Bauri, S. Banerjee* and <u>S.</u>	Photophysical insights on effect of gold	Spectrochim. Acta Part A	132C	61	2014

	<u>Bhattacharya*</u> .	nanoparticles over fullerene-porphyrin interaction in solution.				
92	A. Ray and <u>S. Bhattacharya*</u> .	Remarkable decrease in binding strength for phthalocyanine-fulleropyrrolidine non-covalent interaction in presence of silver nanoparticles.	RSC Adv. (Communication).	4	10648	2014
91	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical insights on non-covalent binding of PyC ₆₀ with designed diporphyrin in solution.	J. Sol. Chem.	42	111	2013
90	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya*</u> .	Photophysical investigations on determination of molecular structure and binding strength of supramolecular complexation between fulleropyrrolidine and a designed bisporphyrin in solution.	Spectrochim. Acta Part A	109,	32	2013
89	R. Mitra, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Inhibition in binding between fullerene and bisporphyrin in presence of silver nanoparticles: A new physicochemical insight into fullerene bisporphyrin complexation in solution.	Spectrochim. Acta Part A	102	358	2013
88	R. Mitra and <u>S. Bhattacharya*</u> .	Inhibition in binding between fullerene and a bisporphyrin in presence of silver nanoparticles in solution: UV-Vis, DLS, SEM and TEM studies.	Spectrochim. Acta Part A,	114	11	2013
87	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical insights on effective and selective non-covalent binding between fullerenes (C ₆₀ and C ₇₀) and a designed diporphyrin in solution.	Spectrochim. Acta Part A	115	835	2013
86	R. Mitra, A. K. Bauri and <u>S. Bhattacharya*</u> .	Study of non-covalent interaction between a designed monoporphyrin and fullerenes (C ₆₀ and C ₇₀) in absence and presence of silver nanoparticles.	Spectrochim. Acta Part A	96	485	2012
85	R. Mitra and <u>S. Bhattacharya*</u> .	Chemical physics inhibition in binding between fullerene and bisporphyrin in presence	J. Mol. Liq.	172	20	2012

		of gold nanoparticles: a new physical insight into fullerene-bisporphyrin complexation in solution.				
84	D. Pal, A. Ray and <u>S. Bhattacharya</u> *.	Influence of the energy of charge transfer on non-covalent interactions between fullerenes and a designed bisporphyrin	Spectrochim. Acta Part A	95	317	2012
83	A. Halder, S. K. Nayak, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	A Rational Approach Towards Determination of Optical Ionicity and Non-covalent Interactions in Fullerene-Calix[4]arene Host-Guest Complexes.	J. Sol. Chem.	41	223	2012
82	A. Halder, K. Kundu, S. K. Nayak, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	Absorption spectrophotometric, NMR and theoretical investigations on ground state non-covalent interaction of C ₆₀ and C ₇₀ with a designed trihomocalix[6]arene in solution.	Spectrochim. Acta Part A	93	384	2012
81	R. Mitra, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	Physicochemical insights in supramolecular interaction of fullerenes C ₆₀ and C ₇₀ with a monoporphyrin in presence of silver nanoparticles.	Spectrochim. Acta Part A	9	284	2012
80	P. Mukherjee and <u>S. Bhattacharya</u> *.	Spectroscopic and theoretical insights on fullerene-octaethylporphyrin self assembled non-covalent conjugates studied in solution.	Spectrochim. Acta Part A	90	186	2012
79	A. Halder and <u>S. Bhattacharya</u> *.	Spectroscopic and quantum chemical investigation on non-covalent interaction in chromophore appended fullerene complexes of calix[4]arene.	Spectrochim. Acta Part A,	99	335	2012
78	B. K. Ghosh, K. Santhosh, A. K. Bauri and <u>S. Bhattacharya</u> *.	Photophysical insights in non-covalent interaction of a newly designed triporphyrin with fullerenes C ₆₀ and C ₇₀ in solution.	Spectrochim. Acta Part A.	97	1166	2012
77	A. Ray, K. Santhosh and <u>S. Bhattacharya</u> *.	Photophysical and Theoretical Insights on Fullerene/Zincphthalocyanine Supramolecular	J. Phys. Chem. B	116	11979	2012

		Interaction in Solution.				
76	P. Mukherjee, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical investigations on supramolecular interaction of a newly designed monoporphyrin with fullerenes and functionalized fullerenes in solution.	J. Sol. Chem.	41	200	2012
75	P. Mukherjee, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical insights on determination of binding strength and molecular structure for the supramolecular complexes of a designed bisporphyrin with C ₆₀ and C ₇₀ .	J. Porphyrin Phthalocyanine	16	14	2012
74	A. Ray, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Photophysical and theoretical insights on non-covalently linked fullerene-zinc phthalocyanine complexes.	Spectrochim. Acta Part A	79	1435	2011
73	A. Halder and <u>S. Bhattacharya*</u> .	Absorption spectrophotometric, NMR and quantum chemical investigations on ground state non-covalent interactions between fullerenes and a designed trihomocalix[6]arene in solution.	J. Sol. Chem.	40	929	2011
72	D. Pal and <u>S. Bhattacharya*</u> .	Absorption spectrophotometric, fluorescence and theoretical investigations on supramolecular interaction of a designed bisporphyrin with C ₆₀ and C ₇₀ .	Spectrochim. Acta Part A	79	638	2011
71	A. Ray, K. Santhosh and <u>S. Bhattacharya*</u> ,	Absorption spectrophotometric, fluorescence, transient absorption and quantum chemical investigations on fullerene/phthalocyanine supramolecular complexes.	Spectrochim. Acta Part A	78	1364	2011

70	S. Dhar, S. Singha Roy, D. K. Rana, S. Bhattacharya, <u>S. Bhattacharya</u> and S. C. Bhattacharya*.	Tunable solvatochromic response of newly synthesized antioxidative naphthalimide derivatives: intramolecular charge transfer associated with hydrogen bonding effect,	J. Phys. Chem. A	115	2216	2011
69	P. Mukherjee and <u>S. Bhattacharya</u> *.	Supramolecular fullerene/porphyrin interaction in solution: spectroscopic and theoretical investigations	J. Indian Chem. Soc.	88	341	2011
68	D. Pal, M. Furukawa, N. Komatsu, H. Uno* and <u>S. Bhattacharya</u> **.	Photophysical insights into supramolecular interaction of a designed bisporphyrin with fullerenes C ₆₀ and C ₇₀ .	Spectrochim. Acta Part A	78	185	2011
67	A. Halder, S. Bhatt, S. K. Nayak, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	UV-Vis, fluorescence and NMR spectroscopic investigations on inclusion properties of a designed tetrahomocalix[8]arene with fullerenes C ₆₀ and C ₇₀ in solution.	Spectrochim. Acta Part A	84	25	2011
66	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya</u> *.	Determination of binding strength for the supramolecular complexation of a designed bisporphyrin with C ₆₀ , C ₇₀ and their derivatives employing absorption spectrophotometric, fluorescence and quantum chemical calculations.	Spectrochim. Acta Part A	79	1952	2011
65	S. Mukherjee, S. Banerjee, A. K. Bauri and <u>S. Bhattacharya</u> *.	Synthesis, photophysical investigations and molecular structure of the supramolecular complexes of a newly designed diporphyrin receptor with fullerenes C ₆₀ and C ₇₀ in solution.	J. Mol. Struct.	1004	13	2011
64	A. Ray, K. Santhosh and <u>S. Bhattacharya</u> *.	New photophysical insights in noncovalent interaction between fulleropyrrolidine and a series of zincphthalocyanines.	J. Phys. Chem. A	115	9929	2011
63	A. Halder, S. K. Nayak, S. Chattopadhyay and <u>S.</u>	UV-Vis and NMR spectroscopic investigations on	J. Mol. Liq.	151	125	2010

	<u>Bhattacharya</u> *.	effective and selective non-covalent interactions between fullerenes and calix[6]arene.				
62	T. Manna, S. Banerjee and <u>S. Bhattacharya</u> *.	Electronic structures of the electron donor-acceptor complexes of fullerenes C ₆₀ and C ₇₀ with azulene and some of its derivatives employing <i>ab initio</i> and DFT methods.	Indian J. Chem.	49A	1461	2010
61	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya</u> *.	Spectroscopic and theoretical insights on supramolecular complexation of C ₆₀ and C ₇₀ with a designed bisporphyrin.	Spectrochim. Acta Part A	77	64	2010
60	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya</u> *.	Photophysical investigations and binding strength in supramolecular interaction of a newly designed diporphyrin tweezer with fullerenes C ₆₀ and C ₇₀ in solution.	Chem. Phys. Lett.	500	128	2010
59	D. Pal, D. Goswami, S. K. Nayak, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	Spectroscopic and theoretical insights into the origin of fullerene-calix[4]pyrrole interaction.	J. Phys. Chem. A	114	6776	2010
58	A. Halder, D. C. Mukherjee and <u>S. Bhattacharya</u> *.	Photophysical investigations on determination of ionicity and electronic structures for the non-covalent complexes of Calix[4]resorcinarene with fullerenes C ₆₀ and C ₇₀ in solution state.	J. Sol. Chem.	39	1327	2010
57	A. Ray, K. Santhosh, S. Chattopadhyay, A. Samanta and <u>S. Bhattacharya</u> *.	Spectroscopic and theoretical investigations on effective and selective interaction of fullerenes C ₆₀ and C ₇₀ with a derivatized Zn-phthalocyanine: stabilization of charge-recombined state by side-on approach of C ₇₀ .	J. Phys. Chem. A	114	5544	2010
56	A. Ray, S. Bhattacharya Banerjee, S. Chattopadhyay and <u>S. Bhattacharya</u> *.	Photophysical investigations on supramolecular interaction of a C ₆₀ derivative with free-base and metallo-phthalocyanines.	J. Mol. Struct.	966	69	2010

55	S. Mukherjee, A. K. Bauri and <u>S. Bhattacharya*</u> ,	Investigations on photophysical properties and binding strength for the supramolecular complexes of newly designed diporphyrins with fullerenes.	J. Mol. Struct.	965	101	2010
54	A. Halder, D. Goswami, S. K. Nayak, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical investigations on effective and selective complexation between fullerenes (C ₆₀ And C ₇₀) and calix[5]arene.	J. Mol. Struct.	936	112	2009
53	P. Mukherjee, A. Ray, A. K. Bauri and <u>S. Bhattacharya*</u> .	Spectroscopic and theoretical investigations on fullerene complexation by free-base and metalated "bisarylmonoporphyrin" hosts in toluene medium.	J. Mol. Liq.	148	51	2009
52	T. Manna and <u>S. Bhattacharya*</u> .	TCNE-aniline charge transfer complex: <i>ab initio</i> and TDDFT investigations in gas phase.	J. Mol. Model.	15	885	2009
51	P. Mukherjee, S. Bhattacharya (Banerjee), S. K. Nayak, S. Chattopadhyay and S. Bhattacharya*.	Supramolecular fullerene/porphyrin charge transfer interaction studied by absorption spectrophotometric method.	Chem. Phys.	360	116	2009
50	A. Ray, D. Goswami, S. Chattopadhyay and <u>S. Bhattacharya*</u> .	Photophysical and theoretical Investigations on Fullerene/Phthalocyanine supramolecular complexes.	J. Phys. Chem. A	112	11627	2008
49	P. Mukherjee, S. K. Nayak, S. Banerjee (Bhattacharya), S. Chattopadhyay and <u>S. Bhattacharya*</u> .	UV-vis spectrophotometric and theoretical investigations on charge transfer complexes of a designed mesotetraphenyl porphyrin with C ₆₀ and C ₇₀ .	J. Mol. Struct.	889	352	(2008).
48	<u>S. Bhattacharya*</u> , S. K. Nayak, S. Chattopadhyay and D. Saha.	Supramolecular fullerene/porphyrin interactions: A rational approach towards charge transfer absorption and emission analyzed by electronic coupling theory.	J. Mol. Liq.	143	125	2008
47	T. Manna and <u>S. Bhattacharya*</u> .	<i>ab initio</i> and DFT theoretical investigations	J. Theor. Comput. Chem.	7	1055	2008

		on novel porphyrin-fullerene supramolecular dyads for photovoltaic devices.				
46	A. F. M. M. Rahman, S. Bhattacharya, X. Peng, T. Kimura and N. Komatsu*.	Unexpectedly large binding constants of azulenes with fullerenes	Chem. Commun.	2008	1196	2008
45	S. Bhattacharya*, M. Hashimoto, A. Fujimoto, T. Kimura, H. Uno* and N. Komatsu*.	Photophysical properties of a novel Ni(II)-diporphyrin in presence of fullerenes: Insights from experimental and theoretical studies.	Spectrochim. Acta Part A	70	416	2008
44	S. Bhattacharya*	<i>Ab initio</i> and TDDFT investigations on charge transfer transition for the o-chloranil/aniline complex in gas phase	Chem. Phys. Lett.	446	199	2007
43	X. Peng, N. Komatsu*, S. Bhattacharya, T. Shimawaki, S. Aonuma, T. Kimura and A. Osuka.	Optically active single-walled carbon nanotubes.	Nature Nanotech.	2	361	2007
42	S. Bhattacharya*, S. Chattopadhyay, S. K. Nayak, S. Bhattacharya (Banerjee) and M. Banerjee.	Photophysical investigations on non-covalently linked fullerene/tetraarylporphyrin supramolecular complexes.	Spectrochim. Acta Part A	68	427	2007)
41	S. Bhattacharya*, S. K. Nayak, S. Chattopadhyay, K. Ghosh and M. Banerjee.	Inclusion properties of 3-fluoromesotetraphenylporphyrin with C ₆₀ and C ₇₀ .	Spectrochim. Acta Part A	67	1257	2007
40	S. Bhattacharya*, N. Ujihashi, S. Aonuma, T. Kimura and N. Komatsu*.	Spectral and theoretical studies on effective and selective non-covalent interaction between tetrahexylporphyrins and fullerenes.	Spectrochim. Acta Part A	68	495	2007
39	S. Bhattacharya*, K. Tominaga, T. Kimura, H. Uno and N. Komatsu*.	A new metalloporphyrin dimer: Effective and selective molecular tweezers for fullerenes.	Chem. Phys. Lett.	433,	395	2007
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