

## Robert E. Blankenship

Formerly at:  
Departments of Biology and Chemistry  
Washington University in St. Louis  
St. Louis, Missouri 63130  
USA

Current Address:  
3536 S. Kachina Dr.  
Tempe, Arizona 85282  
USA

Tel (480) 518-2871

Email: [Blankenship@wustl.edu](mailto:Blankenship@wustl.edu)

Google Scholar: <https://scholar.google.com/citations?user=nXJkAnAAAAAJ&hl=en&oi=ao>

ORCID ID: 0000-0003-0879-9489

### CITATION STATISTICS

#### Google Scholar (September 2020)

	All	Since 2015
Citations:	33,007	13,091
h-index:	81	43
i10-index:	319	177

#### Web of Science (September 2020)

Sum of the Times Cited:	20,070
Sum of Times Cited without self-citations:	18,379
Citing Articles:	12,322
Citing Articles without self-citations:	11,999
Average Citations per Item:	43.82
h-index:	66

### PUBLICATIONS: (441 total)

**B = Book; BR = Book Review; CP = Conference Proceedings; IR = Invited Review; R = Refereed; MM = Multimedia**

441. Blankenship, RE (2021) *Molecular Mechanisms of Photosynthesis, 3<sup>rd</sup> Ed.*, Wiley, Chichester. Manuscript in Preparation. (B)
440. Kiang N, Parenteau, MN, Swingley W, Wolf BM, Brodderick J, Blankenship RE, Repeta D, Detweiler A, Bebout LE, Schladweiler J, Hearne C, Kelly ET, Miller KA, Lindemann R (2020)

- Isolation and characterization of a chlorophyll *d*-containing cyanobacterium from the site of the 1943 discovery of chlorophyll *d*. Manuscript in Preparation.
439. King JD, Kottapalli JS, and Blankenship RE (2020) A binary chimeragenesis approach reveals long-range tuning of copper proteins. Submitted. (R)
438. Wolf BM, Barnhart-Dailey MC, Timlin JA, and Blankenship RE (2020) Photoacclimation in a newly isolated Eustigmatophyte alga capable of growth using far-red light. Submitted. (R)
437. Chen M and Blankenship RE (2021) Photosynthesis. In *Encyclopedia of Biological Chemistry, 3<sup>rd</sup> Ed.*, J Jez, Ed., Elsevier. In Press.
436. Liu H, Zhang MM, Weisz DA, Cheng M, Pakrasi HB, Gross ML, and Blankenship RE (2020) Structure of cyanobacterial phycobilisome core revealed by structural modeling and chemical cross-linking. In Revision for *Science Advances*. (R)
435. Higgins JS, Lloyd LT, Sohail SH, Allodi MA, Otto JP, Saer RG, Wood RE, Massey SC, Ting P-C, Blankenship RE and Engel GS (2020) Pigment-protein complexes use redox dependent vibronic coupling to drive photosynthetic energy transfer. Submitted.
434. Sparks WB, Parenteau MN, Blankenship RE, Germer TA, Patty L, Telesco C, Meadows VS (2020) Spectropolarimetry of primitive phototrophs as global surface biosignatures. In Revision for *Astrobiology*.
433. Sonani RR, Roszak AW, Liu H, Gross ML, Blankenship RE, Madamwar D, Cogdell RJ (2020) Revisiting high resolution crystal structure of *Phormidium rubidum* phycocyanin assisted by using mass spectrometry. *Photosynthesis Research* **144**: 349-360.
432. Shi Y, Xin Y, Wang C, Tang W, Blankenship RE, Sun F, and Xu X (2020) 3.3 Å cryo-EM structure of the photosynthetic Alternative Complex III from *Roseiflexus castenholzii* reveals a redox-coupled proton translocation mechanism. *Science Advances* **6**: eaba2739. (R)
431. Dewey ED, Stokes LM, Burchell BM, Shaffer KN, Huntington AM, Baker JM, Nadendla S, Giglio MG, Bender KS, Touchman JW, Blankenship RE, Madigan MT, Sattley WM (2020) Analysis of the complete genome of the alkaliphilic and phototrophic Firmicute *Heliorestis convoluta* strain HH $\tau$ . *Microorganisms* **8**: 313. (R)
430. Lou W, Niedzwiedzki DM, Blankenship RE, and Liu H (2020) Binding of red form of the orange carotenoid protein to phycobilisome is not sufficient for its function—Evidence of a third state of OCP in cyanobacterial non-photochemical quenching. *Biochimica et Biophysica Acta* **1861**: 148155. (R)
429. Ho M-Y, Niedzwiedzki DM, MacGregor-Chatwin C, Gerstenecker G, Hunter CN, Blankenship RE, and Bryant DA (2020) Extensive remodeling of the photosynthetic apparatus alters

- energy transfer among photosynthetic complexes when cyanobacteria acclimate to far-red light. *Biochimica et Biophysica Acta* **1861**: 148064. (R)
428. Irgen-Giorgio S, Gururangan K, Goodson C, Blankenship RE, and Harel E (2019) Electronic coherence lifetimes of the Fenna-Matthews-Olson complex and light harvesting complex II. *Chemical Science* **10**: 10503. (R)
427. Jassas M, Goodson C, Blankenship RE, Jankowiak R, and Kell A (2019) On Excitation Energy Transfer within the Baseplate BChl *a*-CsmA Complex of *Chloroflexus aurantiacus*. *Journal of Physical Chemistry B* **123**: 9786-9791. (R)
426. Liu H and Blankenship RE (2019) On the interface of light-harvesting antenna complexes and reaction centers in oxygenic photosynthesis. *Biochimica et Biophysica Acta* **1860**: 148079. (R, R)
425. Weisz DA, Johnson VM, Niedzwiedzki DM, Shinn MK, Liu H, Klitzke CF, Gross ML, Blankenship RE, Lohman TM, Pakrasi HB (2019) A novel chlorophyll protein complex in the repair cycle of Photosystem II. *Proceedings of the National Academy of Sciences USA* **116**: 21907-21913. (R)
424. Lou W, Haijun Liu H, Wolf BM, Blankenship RE (2019) The role of copper in OCP-related photoprotection in cyanobacteria. *Biochemistry* **58**: 3109-3115. (R)
423. Niedzwiedzki DM, Liu H, and Blankenship RE (2019) Excitation energy transfer in intact CpcL-phycoobilisome from *Synechocystis* sp PCC. 6803. *Journal of Physical Chemistry B* **123**: 4695-4704. (R)
422. Wolf BM and Blankenship RE (2019) Far-red light acclimation in diverse oxygenic photosynthetic organisms. *Photosynthesis Research* **142**: 349-359. (R)
421. Liu H, Weisz DA, Zhang MM, Cheng M, Zhang B, Zhang H, Gerstenecker GS, Pakrasi HB, Gross ML, and Blankenship RE (2019) Phycobilisomes harbor FNR<sub>L</sub> in cyanobacteria. *mBio* **10**: e00669-19 (R)
420. Niedzwiedzki DM, Wolf, BM, and Blankenship RE (2019) Excitation energy transfer in the far-red absorbing violaxanthin/vaucheriaxanthin chlorophyll *a* complex from the Eustigmatophyte Alga FP5. *Photosynthesis Research* **140**: 337-354. (R)
419. Lu X, Selvaraj B, Ghimire-Rijal S, Orf GS, Blankenship RE, Meilleur F, Cuneo MJ and Myles DAA (2019) Neutron and X-ray analysis of the Fenna-Matthews-Olson photosynthetic antenna complex from *Prosthecochloris aestuarii*. *Acta Crystallographica F* **71**: 171-175. (R)
418. Squires AH, Dahlberg PD, Magdaong NCM, Liu H, Blankenship RE, and Moerner WE (2019) Identification of two distinct binding sites for Orange Carotenoid Protein on the phycobilisome by single-molecule trapping and spectroscopy. *Nature Communications* **10**: 1172. (R)

417. Niedzwiedzki DM, Bar-Zvi S, Blankenship RE, and Adir N (2019) Excitation energy migration in phycobilisomes from the cyanobacterium *Acaryochloris marina*. *Biochimica et Biophysica Acta* **1860**: 286-296. (R)
416. Saer RG, Schultz R, and Blankenship RE (2019) The influence of quaternary structure on the stability of Fenna-Matthews-Olson (FMO) antenna complexes. *Photosynthesis Research* **140**: 39-49. (R)
415. Govindjee and Blankenship RE (2018) Martin D. Kamen, Whose Discovery of <sup>14</sup>C Changed Plant Biology as Well as Archaeology. *Plantae*  
<https://community.plantae.org/path/5105915226511902577>. (MM)
414. Magdaong NCM, Niedzwiedzki DM, Saer RG, Goodson C, and Blankenship RE (2018) Excitation energy transfer kinetics and efficiency in phototrophic green sulfur bacteria. *Biochimica et Biophysica Acta* **1859**: 1180-1190. (R)
413. Shah VB, Ferris C, Orf G, Kavadiya S, Ray J, Jun Y-S, Lee B, Blankenship RE, and Biswas P (2018) Supramolecular self-assembly of bacteriochlorophyll *c* molecules in aerosolized droplets to synthesize biomimetic chlorosomes. *Journal of Photochemistry and Photobiology B* **185**: 161-168. (R)
412. Niedzwiedzki DM and Blankenship RE (2018) Excited-state properties of the central-*cis* isomer of the carotenoid peridinin. *Archives of Biochemistry and Biophysics* **649**: 29-36. (R)
411. Niedzwiedzki DM, Gardiner AT, Blankenship RE and Cogdell RJ (2018) Energy transfer in purple bacterial photosynthetic units from cells grown in various light intensities. *Photosynthesis Research* **137**: 389-402. (R)
410. Bar-Zvi S, Lahav A, Harris D, Niedzwiedzki DM, Blankenship RE and Adir N (2018) Structural heterogeneity leads to functional homogeneity in *A. marina* phycocyanin. *Biochimica et Biophysica Acta* **1859**: 544-553. (R)
409. Lu Y, Goodson C, Blankenship RE, and Gross ML (2018) Primary and higher order structure of the reaction center from the purple phototrophic bacterium *Blastochloris viridis*: A test for native mass spectrometry. *Journal of Proteome Research* **17**: 1615- 1623. (R)
408. Khmel'nitskiy A, Saer R, Blankenship RE and Jankowiak R (2018) On the excitonic energy landscape of the Y16F mutant of the *Chlorobium tepidum* FMO complex: High-resolution spectroscopic and modeling studies. *Journal of Physical Chemistry B* **122**: 3734-3743. (R)
407. Tang JK-H and Blankenship RE (2018) Photosynthetic Electron Transport. *Encyclopedia of Biophysics, 2nd Ed.*, G. C. K Roberts, Ed., Springer, The Netherlands. (IR)

406. Xin Y, Shi Y, Niu T, Wang Q, Niu W, Huang X, Ding W, Yang L, Blankenship RE, Xu X, and Sun F (2018) Cryo-EM structure of the RC-LH core complex from an early branching photosynthetic prokaryote. *Nature Communications* **9**: 1568. (R)
405. Stadnytskyi, V, Orf GS, Blankenship RE and Savikhin S (2018) Shot-noise limited time-resolved circular dichroism pump-probe spectrometer. *Review of Scientific Instruments* **89**: 033184. (R)
404. Blankenship RE, Brune DC and Olson J (2018) Remembering John M. Olson (1929-2017). *Photosynthesis Research* **137**: 161-169. (IR)
403. Ogren JI, Tong AL, Gordon SC, Chenu A, Lu Y, Blankenship RE, Cao J and Schlau-Cohen GS (2018) Impact of the lipid bilayer membrane on energy transfer kinetics in the photosynthetic protein LH2. *Chemical Science* **9**: 3095-3104. (R)
402. Magdaong NCM and Blankenship RE (2018) Photoprotective excited state quenching mechanisms in diverse photosynthetic organisms. *Journal of Biological Chemistry* **293**: 5018-5025. (R, IR)
401. Allodi MA, Otto JP, Sohail SH, Saer RG, Wood RE, Rolczynski BS, Massey SC, Ting P-C, Blankenship RE and Engel GS (2018) Reactive oxygen species affect ultrafast exciton transport in photosynthetic pigment-protein complexes. *Journal of Physical Chemistry Letters* **9**: 89–95. (R)
400. Hernandez-Prieto MA, Postier B, Blankenship RE and Chen M (2018) Far-red light promotes biofilm formation but not chlorophyll *d* biosynthesis in the cyanobacterium *Acaryochloris marina*. *Environmental Microbiology* **20**: 535–545. (R)
399. Maiuri M, Ostroumov EE, Saer RG, Blankenship RE and Scholes GD (2018) Coherent wavepackets in the FMO complex are robust to excitonic-structure perturbations by mutagenesis. *Nature Chemistry* **10**: 177-183. (R)
398. Chen M and Blankenship RE (2018) Pigments: general properties and biosynthesis. In: *Light Harvesting in Photosynthesis*. Roberta Croce; Rienk van Grondelle; Herbert van Amerongen; Ivo van Stokkum, Eds. CRC Press, Boca Raton, FL, pp 3-20. (IR)
397. Liu H, Lu Y, Wolf BM, Saer R, Orf GS, King JD and Blankenship RE (2018) Photoactivation and relaxation studies on the cyanobacterial OCP in the presence of copper ion. *Photosynthesis Research* **135**: 143-147. (R)
396. Wolf BM, Magdaong NM, Roth R, Goodenough U and Blankenship RE (2018) Characterization of a newly isolated freshwater Eustigmatophyte alga capable of utilizing far-red light as its sole light source. *Photosynthesis Research* **135**: 177-189. (R)
395. Khmel'nitskiy A, Kell A, Reinot T, Saer RG, Blankenship RE and Jankowiak R (2018) Energy landscape of the intact and destabilized FMO antennas from *C. tepidum* and the L122Q

- mutant: Low temperature spectroscopy and modeling study. *Biochimica et Biophysica Acta* **1859**: 165-173. (R)
394. Majumder EL-W, Wolf BM, Liu H, Berg RH, Timlin JA, Chen M and Robert E. Blankenship RE (2017) Subcellular pigment distribution is altered under far red light acclimation in cyanobacteria that contain chlorophyll *f*. *Photosynthesis Research*, **134**: 183-192. (R)
393. Valteau S, Stüder R, HaÅNse F, Kreisbeck C, Saer R, Blankenship RE, Shaknovicha E, and Aspuru-Guzik A (2017) Evolutionary study and ancestral reconstruction of the Fenna-Matthews-Olson complex. *ACS Central Science* **3**: 1086-1095. (R)
392. Niedzwiedzki DM, Swainsbury DJK, Martin EC, Hunter CN and Blankenship RE (2017) Investigating the nature of the S\*-excited state feature of carotenoids in light harvesting complex 1 from purple photosynthetic bacteria. *Journal of Physical Chemistry B* **121**: 7571-7585. (R)
391. Orf GS, Collins AM, Niedzwiedzki DM, Tank M, Thiel V, Kell A, Bryant DA, Montano G and Blankenship RE (2017) Polymer-chlorosome nanocomposites consisting of nonnative combinations of self-assembling bacteriochlorophyll. *Langmuir* **33**: 6427-6438. (R)
390. Saer R and Blankenship RE (2017) Light-harvesting in phototrophic bacteria: structure and function. *Biochemical Journal* **474**: 2107-2131. (R, IR)
389. Blankenship RE (2017) How cyanobacteria went green. *Science* **355**: 1372-1373. (IR)
388. Lu Y, Liu H, Saer R, Li VL, Zhang H, Shi L, Goodson C, Gross ML, and Blankenship RE (2017) A molecular mechanism for non-photochemical quenching in cyanobacteria. *Biochemistry* **56**: 2812-2823. (R)
387. Magdaong NCM, Saer RG, Niedzwiedzki DM and Blankenship RE (2017) Ultrafast spectroscopic investigation of energy transfer in site-directed mutants of Fenna-Matthews-Olson (FMO) complex from *Chlorobaculum tepidum*. *Journal of Physical Chemistry B* **121**: 4700-4712. (R)
386. Baker J, Riester CJ, Skinner B, Newell A, Swingley WD, Madigan MT, Jung D, Asao M, Chen M, Loughlin P, Pan H, Lin S, Li N, Shaw J, Prado M, Sherman C, Tang J, Blankenship RE, Zhao T, Lu Y-K, Touchman JW, and Sattley WM (2017) Draft genome sequence of *Rhodospirillum rubrum* ABT, a psychrophilic purple nonsulfur bacterium from an Antarctic microbial mat. *Microorganisms*, **5(1)**: 8 16 pps. (R)
385. Saer RG, Stadnytskyi V, Magdaong NC, Goodson C, Savikhin S and Blankenship RE (2017) Probing the excitonic landscape of *Chlorobaculum tepidum* Fenna-Matthews- Olson (FMO) antenna complex through site-directed mutagenesis. *Biochimica et Biophysica Acta* **1858**: 288-296. (R)

384. Andreoni A, Lin S, Liu H, Blankenship RE, Yan H and Woodbury NW (2017) OCP as a control element in an antenna system based on a DNA nanostructure. *Nano Letters* **17**: 1174-1180. (R)
383. Lu Y, Liu H, Saer R, Zhang H, Meyer C, Li VL, Shi L, King JD, Gross ML, Blankenship RE (2017) Native mass spectrometry analysis of oligomerization states of FRP and OCP: two proteins involved in the cyanobacterial photoprotection cycle. *Biochemistry* **56**: 160-166. (R)
382. Mendez DL, Babbitt SE, King J, D'Alessandro J, Blankenship RE, Mirica LM, Kranz RG (2017) Engineered holocytochrome *c* synthases that biosynthesize new cytochromes *c*. *Proceedings of the National Academy of Sciences USA* **114**: 2235-2240. (R)
381. Zhang H, Harrington LB, Lu Y, Prado M, Saer R, Rempel D, Blankenship RE and Gross ML (2017) Native mass spectrometry characterizes the photosynthetic reaction center complex from the purple bacterium *Rhodobacter sphaeroides*. *Journal American Society of Mass Spectrometry* **28**: 87-95. (R)
380. Khadka B, Adeolu M, Blankenship RE and Gupta RS (2017) Novel insights into the origin of photosynthetic reaction centers I and II based on conserved indels in the core proteins. *Photosynthesis Research* **131**: 159-171. (R)
379. Niedzwiedzki DM, Hunter CN and Blankenship RE (2016) Evaluating the nature of so-called S\*-state feature in transient absorption of carotenoids in light-harvesting complex 2 (LH2) from purple photosynthetic bacteria. *Journal of Physical Chemistry B*. **120**: 11123–11131. (R)
378. Lu Y, Zhang H, Niedzwiedzki DM, Jiang J, Blankenship RE, and Gross ML (2016) Fast photochemical oxidation of proteins maps the topology of intrinsic membrane proteins: Light-harvesting complex 2 in a nanodisc. *Analytical Chemistry* **88**: 8827-8834. (R)
377. Kell A, Blankenship RE, and Jankowiak R (2016) Effect of spectral density shapes on the excitonic structure and dynamics of the Fenna-Matthews-Olson trimer from *Chlorobaculum tepidum*. *Journal of Physical Chemistry A* **120**: 6146–6154. (R)
376. Magdaong NCM, Niedzwiedzki DM, Goodson C and Blankenship RE (2016) Carotenoid to-bacteriochlorophyll energy transfer in the LH1-RC core complex of a bacteriochlorophyll *b*-containing purple photosynthetic bacterium *Blastochloris viridis*. *Journal of Physical Chemistry B* **120**: 5159-5171. (R)
375. Orf GS, Saer R, McIntosh CL, Zhang H, Niedzwiedzki DM and Blankenship RE (2016) Reactive cysteine residues gate energy transfer in the FMO complex from *Chlorobaculum tepidum*. *Proceedings of the National Academy of Sciences USA* **113**: E4486–E4493. (R)
374. Saer R, Orf GS, Lu X, Zhang H, Myles D and Robert E. Blankenship RE (2016) Perturbation of bacteriochlorophyll molecules in Fenna-Matthews-Olson protein complexes through mutagenesis of cysteine residues. *Biochimica et Biophysica Acta* **1857**: 1455-1463. (R)

373. Niedzwiedzki DM, Tronina T, Liu H, Staleva H, Komenda J, Sobotka R, Blankenship RE, and Polivka T (2016) Carotenoid-induced non-photochemical quenching in the cyanobacterial chlorophyll synthase-HliC/D complex. *Biochimica et Biophysica Acta* **1857**: 1430-1439. (R)
372. Yoneda A, Wittmann BJ, King JD, Blankenship RE, Dantas G (2016) Transcriptomic analysis illuminates genes involved in chlorophyll synthesis after nitrogen starvation in *Acaryochloris* sp. CCMEE 5410. *Photosynthesis Research* **129**: 171-182. (R)
371. Liu H, Zhang H, Orf GS, Lu Y, Jiang J, King JD, Wolf NR, Gross ML and Blankenship RE (2016) Dramatic domain rearrangements of the cyanobacterial orange carotenoid protein upon photoactivation. *Biochemistry* **55**: 1003-1009. (R)
370. Zhang H, Liu H, Lu Y, Wolf NR, Gross ML and Blankenship RE (2016) Native mass spectrometry and ion mobility characterize the orange carotenoid protein functional domains. *Biochimica et Biophysica Acta* **1857**: 734-739. (R)
369. Kavadiya S, Chadha TS, Liu H, Shah VB, Blankenship RE and Biswas P (2016) Directed assembly of thylakoid membrane on nanostructured TiO<sub>2</sub> for a photo-electrochemical cell. *Nanoscale* **8**: 1868-1872. (R)
368. Zhang H, Liu H, Blankenship RE and Gross ML (2016) Isotope-encoded carboxyl group footprinting for mass spectrometry-based protein conformational studies. *Journal of the American Society for Mass Spectrometry* **27**: 178-181. (R)
367. Lu Y, Zhang H, Cui W, Saer R, Liu H, Gross ML, and Blankenship RE (2015) Top-down mass spectrometry analysis of membrane-bound light-harvesting complex 2 from *Rhodobacter sphaeroides*. *Biochemistry* **54**: 7261-7271. (R)
366. Majumder ELW and Blankenship RE (2016) The diversity of photosynthetic cytochromes. In: *Cytochrome Complexes: Evolution, Structures, Energy Transduction, and Signaling*, W Cramer and T Kallas, Eds., Springer, Dordrecht. *Advances in Photosynthesis and Respiration*, Vol. 41, pps 25-50. (IR)
365. Majumder EL-W, Olsen JD, Qian P, Collins AM, Hunter CN and Blankenship RE (2016) Supramolecular organization of photosynthetic complexes in membranes of *Roseiflexus castenholzii*. *Photosynthesis Research*, **127**: 117-130. (R)
364. Blankenship RE (2015) Structural and functional dynamics of photosynthetic antenna complexes. *Proceedings of the National Academy of Sciences USA* **112**: 13751–13752. (IR)
363. Jiang J, Zhang H, Lu X, Lu Y, Cuneo MJ, O'Neill HM, Urban V, Lo CS, Blankenship RE (2015) Oligomerization state and pigment binding strength of the peridinin-Chl *a* protein. *FEBS Letters* **589**: 2713-2719. (R)



362. He G, Niedzwiedzki DM, Orf GS, Zhang H and Blankenship RE (2015) Dynamics of Energy and electron transfer in the FMO-reaction center complex from the phototrophic green sulfur bacterium *Chlorobaculum tepidum*. *Journal of Physical Chemistry B* **119**: 8321–8329. (R)
361. Cui W, Zhang H, Blankenship RE and Gross ML (2015) Electron-capture dissociation and ion mobility for characterization of the hemoglobin protein assembly. *Protein Science* **24**: 1325-1132. (R)
360. Kihara S, Hartzler D, Orf GS, Blankenship RE and Savikhin S (2015) Triplet energy transfer in the Fenna-Matthews-Olson complex. *Journal of Physical Chemistry B* **119**: 5765-5772. (R)
359. Shah VB, Henson WR, Chadha TS, Lakin G, Liu H, Blankenship RE and Biswas P (2015) Linker free directed assembly of Photosystem I onto nanostructured TiO<sub>2</sub> for biohybrid photo-electrochemical cell. *Langmuir* **31**: 1675–1682. (R)
358. Ort DR, Merchant SS, Alric J, Barkan A, Blankenship RE, Bock R, Croce R, Hanson MR, Hibberd J, Lindstrom DL, Long SP, Moore TA, Moroney J, Niyogi KK, Parry M, Peralta- Yahya P, Prince R, Redding K, Spalding M, van Wijk K, Vermaas WFJ, von Caemmerer S, Weber W, Yeates T, Yuan J, Zhu X (2015) Redesigning photosynthesis to sustainably meet global food and bioenergy demand. *Proceedings of the National Academy of Sciences USA* **112**: 8529-8536. (R, IR)
357. You L, Liu H, Blankenship RE and Tang YJ (2015) Use of Photosystem I as a reporter protein for <sup>13</sup>C-analysis in a coculture containing cyanobacterium and a heterotrophic bacterium. *Analytical Biochemistry* **477**: 86-88. (R)
356. Blankenship RE (2015) Photosynthesis: The light reactions. Chapter 7 in: *Plant Physiology and Development*, 6th Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, pps 171-202. (R, IR)
355. King JD, Liu H, He G, Orf GS and Blankenship RE (2014) Chemical activation of the cyanobacterial orange carotenoid protein. *FEBS Letters* **588**: 4561-4565. (R)
354. King JD, Harrington L, Lada BM, He G, Cooley JW and Blankenship RE (2014) Sitedirected mutagenesis of the highly perturbed copper site of auracyanin D. *Archives of Biochemistry and Biophysics* **564**: 237-243. (R)
353. Jez JM and Blankenship RE (2014) Lights, X-rays, oxygen! *Cell* **158**: 701-703. (IR)
352. Liu H, Zhang H, King JD, Wolf N, Prado M, Gross ML, and Blankenship RE (2014) Mass spectrometry footprinting reveals the structural rearrangements of cyanobacterial orange carotenoid protein upon light activation. *Biochimica et Biophysica Acta* **1837**: 1955-1963. (R)

351. He G, Zhang H, King JD and Blankenship RE (2014) Structural analysis of the homodimeric reaction center complex from the photosynthetic green sulfur bacterium *Chlorobaculum tepidum*. *Biochemistry* **53**: 4924-4930. (R)
350. Niedzwiedzki DN, Liu H and Blankenship RE (2014) Excited state properties of 3'-hydroxyechinenone in solvents and in the orange carotenoid protein from *Synechocystis* sp. PCC 6803. *Journal of Physical Chemistry B* **118**: 6141–6149. (R)
349. Zhang Y, Majumder E L-W, Yue H, Blankenship RE, and Gross ML (2014) Analysis of diheme cytochrome c by hydrogen-deuterium exchange mass spectrometry and homology modeling. *Biochemistry* **53**: 5619-5630. (R)
348. Jiang J, Zhang H, Orf G, Lu Y, Xu W, Harrington LB, Liu H, Lo CS and Blankenship RE (2014) Chlorophyll *a/c2*-peridinin proteins assemble into trimers in the dinoflagellate *Symbiodinium*. *Biochimica et Biophysica Acta* **1837**: 1904-1912. (R)
347. Carey A-M, Hacking K, Picken N, Honkanen S, Kelly S, Niedzwiedzki DM, Blankenship RE, Shimizu Y, Hikabe H, Wang-Otomo Z-Y and Cogdell RJ (2014) Characterisation of the LH2 spectral variants produced by the photosynthetic purple sulphur bacterium *Allochromatium vinosum*. *Biochimica et Biophysica Acta* **1837**: 1849-1860. (R)
346. Hartzler D, Niedzwiedzki DM, Bryant DA, Blankenship RE, Pushkar Y and Savikhin S (2014) Triplet excited state energies and phosphorescence spectra of (bacterio)chlorophylls. *Journal of Physical Chemistry B* **118**: 7221–7232. (R)
345. Niedzwiedzki DM, Liu H, Chen M and Blankenship RE (2014) Excited state properties of chlorophyll *f* in organic solvents at ambient and cryogenic temperatures. *Photosynthesis Research* **121**: 25-34. (R)
344. Blankenship RE, Frank HA and Niederman RA (2014) Introduction to accompany the special issue on light harvesting. *Photosynthesis Research* **121**: 1. (CP)
343. McIntosh C and Blankenship RE (2014) Photosynthesis. In: *Encyclopedia of Inorganic and Bioinorganic Chemistry*, R Scott, Ed., John Wiley and Sons, Chichester. DOI: 10.1002/9781119951438.eibc0177.pub2. 27 pps. (R, IR)
342. Zhang H, Niedzwiedzki DM, Liu H, Prado M, Jiang J, Gross ML and Blankenship RE (2014) The molecular mechanism of orange carotenoid protein-mediated photoprotection in cyanobacteria. *Biochemistry* **53**: 13-19. (R)
341. Orf GS, Niedzwiedzki DM and Blankenship RE (2014) Intensity dependence of the excited state lifetime and triplet conversion yield in the FMO antenna protein. *Journal of Physical Chemistry B* **118**: 2058-2069. (R)

340. Kell A, Acharya K, Blankenship RE and Jankowiak R (2014) Destabilization in the Fenna-Matthews-Olson complex of *Chlorobaculum tepidum*. *Photosynthesis Research* **120**: 323-329. (R)
339. Herascu N, Kell A, Acharya K, Jankowiak R, Blankenship RE and Zazubovich V (2014) Modeling of various optical spectra in the presence of uncorrelated excitation energy transfer in dimers and trimers with weak inter-pigment coupling. *Journal of Physical Chemistry B* **118**: 2302-2040 (R)
338. David L, Prado M, Blankenship RE, Arteni A, Elmlund DA and Adir N (2014) Structural studies show energy transfer within stabilized phycobilisomes independent of the mode of rod-core assembly. *Biochimica et Biophysica Acta* **1837**: 385-395. (R)
337. Niedzwiedzki DM, Orf GS, Tank M, Vogl K, Bryant DA and Blankenship RE (2014) Photophysical properties of the excited states of bacteriochlorophyll *f* in solvents and in chlorosomes. *Journal of Physical Chemistry B* **118**: 2295-2305. (R)
336. Blankenship RE (2014) *Molecular Mechanisms of Photosynthesis, 2nd Ed.* Wiley-Blackwell, Oxford, UK. ISBN 978-1-4051-8975-0 (B)
335. Shah VB, Lakin G, Orf GS, Blankenship, RE and Biswas P (2013) Biomimetic approach to synthesize sensitizers for hybrid solar cells. 39<sup>th</sup> IEEE Photovoltaic Specialists Conference Proceedings, pp. 1084-1088. (CP)
334. Henson WR, Shah VB, Lakin G, Chadha T, Liu H, Blankenship RE, Biswas P (2013) Production and performance of a Photosystem I-based solar cell using nano-columnar TiO<sub>2</sub>. 39<sup>th</sup> IEEE Photovoltaic Specialists Conference Proceedings, pp. 2705-2709. (CP)
333. King JD, McIntosh CL, Halsey CM, Lada BM, Niedzwiedzki DM, Cooley JW and Blankenship RE (2013) Metalloproteins diversified—The auracyanins are a family of cupredoxins that stretch the spectral and redox limits of blue copper proteins. *Biochemistry* **52**: 8267–8275. (R)
332. Liu H, Zhang H, Niedzwiedzki DM, Prado M, He G, Gross ML and Blankenship RE (2013) Phycobilisomes supply excitations to both photosystems in a megacomplex in cyanobacteria. *Science* **342**: 1104-1107. (R)
331. Blankenship, RE, Musick J, Cooley J, Dutcher S and Govindjee (2013) An invitation to the 16th International Congress on Photosynthesis Research in 2013: Opportunities and Challenges in the 21st Century. *Photosynthesis Research* **115**: 215-218. (IR)
330. Adams PG, Cadby AJ, Robinson B, Tsukatani Y, Wen J, Blankenship RE, Bryant DA, Hunter CN (2013) Comparison of the physical characteristics of chlorosomes from three different phyla of phototrophic bacteria. *Biochimica et Biophysica Acta* **1827**: 1235-1244. (R)

329. Orf GS and Blankenship RE (2013) Chlorosome antenna complexes from green photosynthetic bacteria. *Photosynthesis Research* **116**: 315-331. (R)
328. Gao X, Majumder E, Kang Y, Yue H and Blankenship RE (2013) Functional analysis and expression of the mono-heme-containing cytochrome *c* subunit of Alternative Complex III in *Chloroflexus aurantiacus*. *Archives Biochemistry and Biophysics* **535**: 197-204. (R)
327. Niedzwiedzki DM, Jiang J, Lo CS, Blankenship RE (2013) Low-temperature spectroscopic properties of the peridinin-chlorophyll-*a* protein (PCP) complex from the coral symbiotic dinoflagellate *Symbiodinium*. *Journal of Physical Chemistry B* **117**: 11091–11099. (R)
326. Pšenčík J, Arellano JB, Collins AM, Laurinmäki P, Torkkeli M, Löflund B, Serimaa RE, Blankenship RE, Tuma R, Butcher SJ (2013) The structural and functional role of carotenoids in chlorosomes. *The Journal of Bacteriology* **195**:1727-1734. (R)
325. Zhang H, Cui W, Gross ML and Blankenship RE (2013) Native mass spectrometry of photosynthetic pigment-protein complexes. *FEBS Letters* **587**: 1012-1020. (R, IR)
324. Blankenship RE and Chen M (2013) Spectral expansion and antenna reduction can enhance photosynthesis for energy production. *Current Opinion in Chemical Biology* **17**: 457-461. (R, IR)
323. Bina D and Blankenship RE (2013) Chemical oxidation of the FMO antenna protein from *Chlorobaculum tepidum*. *Photosynthesis Research* **116**: 11-19. (R)
322. Orf GS, Tank M, Vogl K, Niedzwiedzki DM, Bryant DA and Blankenship RE (2013) Spectroscopic insights into the decreased efficiency of chlorosomes containing bacteriochlorophyll *f*. *Biochimica et Biophysica Acta* **1827**: 493-501. (R)
321. Majumder EW, King J and Blankenship RE (2013) Alternative Complex III from phototrophic bacteria and its electron acceptor auracyanin. *Biochimica et Biophysica Acta* **1827**: 1383-1391. (R, IR)
320. Tang K-H and Blankenship RE (2013) Photosynthetic electron transport. In *Encyclopedia of Biophysics*, GKC Roberts, Ed., Springer, New Delhi, ISBN 978-3-642-16711-9. (IR)
319. Niedzwiedzki DM, Jiang J, Lo CS and Blankenship RE (2014) Spectroscopic properties of the chlorophyll *a*-chlorophyll *c*<sub>2</sub>-peridinin-protein-complex (acpPC) from the coral symbiotic dinoflagellate *Symbiodinium*. *Photosynthesis Research* **120**: 125-39. (R)
318. Oh-oka H and Blankenship RE (2013) Green bacteria: Secondary electron donor (Cytochromes) *Encyclopedia of Biological Chemistry, 2nd Ed.*, Lennarz WJ and Lane MD, Eds., Elsevier, Oxford, pps 510-512. (IR).

317. Mielke SP, Kiang NY, Blankenship RE and Mauzerall D (2013) Photosystem trap energies and spectrally dependent energy-storage efficiencies in the Chl *d*-utilizing cyanobacterium, *Acaryochloris marina*. *Biochimica et Biophysica Acta* **1827**: 255-265. (R)
316. Tang K-H, You L, Blankenship RE, Tang YJ (2012) Recent advances in mapping novel microbial metabolisms through <sup>13</sup>C isotopic fingerprints. *J. Royal Society Interface* **9**: 2767-2780. (R, IR)
315. An W-J, Co-Reyes J, Shah VB, Wang W-N, Orf GS, Blankenship RE, and Biswas P (2012) Nano-biohybrid light-harvesting systems for solar energy applications. *MRS Proceedings* **1445**: mrss12-1445-t05-04 doi:10.1557/opl.2012.1220. (R)
314. Shah VB, Orf GS, Reisch S, Harrington LB, Prado M, Blankenship RE and Biswas P (2012) Characterization and deposition of various light-harvesting antenna complexes by electrospray atomization. *Analytical and Bioanalytical Chemistry* **404**: 2329-2338. (R)
313. Marty MT, Zhang H, Cui W, Blankenship RE, Gross ML, Sligar SG (2012) Native mass spectrometry characterizes intact nanodisc lipoprotein complexes. *Analytical Chemistry* **84**: 8957–8960. (R)
312. O’Dell WB, Beatty KJ, Tang K-H, Blankenship RE, Urban VS, and O’Neill H (2012) Sol–gel entrapped light harvesting antennas: Immobilization and stabilization of chlorosomes for energy harvesting. *Journal of Materials Chemistry* **22**: 22582-22591. (R)
311. Vogl K, Tank M, Orf GZ, Blankenship RE and Bryant DA (2012) Bacteriochlorophyll *f*: Properties of chlorosomes containing the “forbidden chlorophyll”. *Frontiers in Microbiology* **3**: Article 298, pps 1-12. (R)
310. Niedzwiedzki DM, Bina D, Picken N, Honkanen S, Blankenship RE, Holten D and Cogdell RJ (2012) Spectroscopic studies of two spectral variants of light-harvesting complex 2 (LH2) from the photosynthetic purple sulfur bacterium *Allochromatium vinosum*. *Biochimica et Biophysica Acta* **1817**: 1576–1587. (R)
309. Jiang J, Zhang H, Kang Y, Bina D, Lo CS and Blankenship RE (2012) Characterization of the peridinin-chlorophyll *a*-protein complex in the dinoflagellate *Symbiodinium*. *Biochimica et Biophysica Acta* **1817**: 983-989. (R)
308. Li Y, Scales N, Blankenship RE, Willows RD and Chen M (2012) Extinction coefficient for red-shifted chlorophylls: chlorophyll *d* and chlorophyll *f*. *Biochimica et Biophysica Acta* **1817**: 1292–1298. (R)
307. Xin Y, Collins AM, Lin S, Pan J and Blankenship RE (2012) Excitation energy transfer and trapping dynamics in the core complex of the filamentous photosynthetic bacterium *Roseiflexus castenholzii*. *Photosynthesis Research* **111**: 149-156. (R)

306. Tang K-H and Blankenship RE (2012) Neutron and light scattering studies of light-harvesting photosynthetic antenna complexes. *Photosynthesis Research* **111**: 205-217. (R, IR)
305. Huang R Y-C, Wen J, Blankenship RE and Gross ML (2012) Hydrogen-deuterium exchange mass spectrometry reveals the interaction of Fenna-Matthews-Olson protein and chlorosome CsmA protein. *Biochemistry* **51**: 187-193. (R)
304. DeSantis MC, Zareh SK, Li X, Blankenship RE and Wang YM (2012) Single-image axial localization precision analysis for individual fluorophores. *Optics Express* **20**: 3057-3065. (R)
303. Ruggirello RM, Balcerzak P, May VL and Blankenship RE (2012) Measurement of solar spectra relating to photosynthesis and solar cells: an inquiry lab for secondary science. *Biochemistry and Molecular Biology Education* **40**: 241-245. (R)
302. Collins AM, Wen J and Blankenship RE (2012) Photosynthetic light-harvesting complexes. In *Molecular Solar Fuels*, T Wydrzynski and W Hillier, Eds., Royal Soc. of Chemistry, Cambridge, UK. 85-106. (IR)
301. Yue H, Kang Y, Zhang H, Gao X and Blankenship RE (2012) Expression and Characterization of the diheme cytochrome *c* subunit of the cytochrome *bc* complex in *Heliobacterium modesticaldum*. *Archives of Biochemistry and Biophysics* **517**: 131-137. (R)
300. Zhang H, Wen J, Huang R-C, Blankenship RE and Gross ML (2012) Mass spectrometry-based carboxyl footprinting of proteins: Method evaluation. *Int. J. of Mass Spectrometry* **312**: 78-86. (R)
299. Hohmann-Marriott M and Blankenship RE (2012) The photosynthetic world. In: *Photosynthesis: Plastid Biology, Energy Conversion and Carbon Assimilation*. Eds. Eaton-Rye JJ, Tripathy BC and Sharkey TD, Springer, Dordrecht, 3-32. (IR)
298. Niedzwiedzki DM, Fuciman M, Kobayashi M, Frank HA and Blankenship RE (2011) Ultrafast time-resolved spectroscopy of the light-harvesting complex 2 (LH2) from the photosynthetic bacterium *Thermochromatium tepidum*. *Photosynthesis Research* **110**: 49-60. (R)
297. Guo Z, Lin S, Xin Y, Wang H, Blankenship RE and Woodbury NW (2011) Comparing the temperature dependence of photosynthetic electron transfer in *Chloroflexus aurantiacus* and *Rhodobactor sphaeroides*. *Journal of Physical Chemistry B* **115**: 11230-11238. (R)
296. Mielke SP, Kiang NY, Blankenship RE, Gunner MR, Mauzerall D (2011) Efficiency of photosynthesis in a Chl *d*-utilizing cyanobacterium is comparable to or higher than that in Chl *a*-utilizing oxygenic species. *Biochimica et Biophysica Acta* **1807**: 1231-1236. (R)
295. Tang K-H, Tang YJ and Blankenship RE (2011) Carbon metabolism pathways in phototrophic bacteria and their broader evolutionary implications. *Frontiers in Microbiology* **2**: 165. (R)

294. Miller SR, Wood AM, Blankenship RE, Kim M and Ferreira S (2011) Dynamics of gene duplication in the genomes of chlorophyll *d*-producing cyanobacteria: Implications for the ecological niche. *Genome Biology and Evolution* **3**: 601-613. (R)
293. Brotsudarmo THP, Collins AM, Gall A, Roszak AW, Gardiner AT, Blankenship RE and Cogdell RJ (2011) The light intensity at which cells are grown controls the type of peripheral light-harvesting complexes that are assembled in a purple photosynthetic bacterium. *Biochemical Journal* **440**: 51-61. (R)
292. Zhang H, Cui W, Wen J, Blankenship RE and Gross ML (2011) Native electrospray and electron-capture dissociation FTICR mass spectrometry for top-down studies of protein assemblies. *Analytical Chemistry* **83**: 5598-5606. (R)
291. Niedzwiedzki DM, Fuciman M, Frank HA and Blankenship RE (2011) Energy Transfer in an LH4-like light-harvesting complex from the aerobic purple photosynthetic bacterium *Roseobacter denitrificans*. *Biochimica et Biophysica Acta* **1807**: 518-528. (R)
290. Tang K-H, Barry K, Chertkov O, Dalin E, Han CS, Hauser LJ, Honchak BM, Karbach LE, Land ML, Lapidus A, Larimer FW, Mikhailova N, Pitluck S, Pierson BK and Blankenship RE (2011) Complete genome sequence of the filamentous anoxygenic phototrophic bacterium *Chloroflexus aurantiacus*. *BMC Genomics* **12**: 334. (R)
289. Hayes D, Wen J, Blankenship RE, and Engel GS (2011) Robustness of electronic coherence in the Fenna-Matthews-Olson complex to vibronic and structural modifications. *Faraday Discussions* **150**: 459-469. (R, CP)
288. Tang K-H, Feng X, Bandyopadhyay A, Pakrasi HB, Tang YJ, and Blankenship RE (2013) Unique central carbon metabolic pathways and novel enzymes in phototrophic bacteria revealed by integrative genomics, <sup>13</sup>C-based metabolomics and fluxomics. Proc. 15<sup>th</sup> Int. Congress on Photosynthesis, T Kuang, C Lu, L Zhang, Eds. *Photosynthesis Research for Food, Fuel and the Future* Zhejiang University Press, Hangzhou and Springer-Verlag, Berlin Heidelberg, pps 339-343. (CP)
287. Hohmann-Marriott, MF and Blankenship RE (2011) Evolution of photosynthesis. *Annual Review of Plant Biology* **62**: 515-548. (R, IR)
286. Chen M and Blankenship RE (2011) Expanding the solar spectrum used by photosynthesis. *Trends in Plant Sciences* **16**: 427-431. (IR)
285. Blankenship RE, Tiede DM, Barber J, Brudvig GW, Fleming G, Ghirardi M, Gunner MR, Junge W, Kramer DM, Melis A, Moore TA, Moser CC, Nocera DG, Nozik AJ, Ort DR, Parson WW, Prince RC, Sayre RT (2011) Comparing Photosynthetic and Photovoltaic Efficiencies and Recognizing the Potential for Improvement. *Science* **332**: 805-809. (R, IR)

284. Wen J, Tsukatani Y, Cui W, Zhang H, Gross ML, Bryant DA and Blankenship RE (2011) Structural model and spectroscopic characteristics of the FMO antenna protein from the aerobic chlorophototroph, *Candidatus Chloracidobacterium thermophilum*. *Biochimica et Biophysica Acta* **1807**: 157-164. (R)
283. Tang K-H, Zhu L, Urban VS, Collins AM, Biswas P and Blankenship RE (2011) Temperature and ionic strength effects on the chlorosome light-harvesting antenna complex. *Langmuir* **27**: 4816-4828. (R)
282. Wen J, Zhang H, Gross ML and Blankenship RE (2011) Native electrospray mass spectrometry reveals the nature and stoichiometry of pigments in the FMO antenna protein. *Biochemistry* **50**: 3502-3511. (R)
281. Larson CR, Seng CO, Lauman L, Matthies HJ, Wen J, Blankenship RE and Allen JP (2011) The three-dimensional structure of the FMO protein from *Pelodictyon phaeum* and the implications for energy transfer. *Photosynthesis Research* **107**: 139-150. (R)
280. Collins AM, Kirmaier C, Holten D, and Blankenship RE (2011) Kinetics and energetics of the reaction center of the photosynthetic bacterium *Roseiflexus castenholzii*. *Biochimica et Biophysica Acta* **1807**: 262-269. (R)
279. Niedzwiedzki DM, Kobayashi M and Blankenship RE (2011) Triplet excited state spectra and dynamics of carotenoids from the thermophilic purple photosynthetic bacterium *Thermochromatium tepidum*. *Photosynthesis Research* **107**: 177-186. (R)
278. Niedzwiedzki DM and Blankenship RE (2010) Singlet and triplet excited state properties of natural chlorophylls and bacteriochlorophylls. *Photosynthesis Research* **106**: 227-238. (R)
277. Tang K-H, Feng Y, Zhuang W-Q, Alvarez-Cohen L, Blankenship RE and Tang YJ (2010) Carbon flow of *Heliobacterium* is related more to *Clostridia* than to the green sulfur mbacteria. *Journal of Biological Chemistry* **285**: 35104-35112. (R)
276. Feng Y, Tang K-H, Blankenship RE and Tang YJ (2010) Metabolic flux analysis of the mixotrophic metabolisms in the green sulfur bacterium *Chlorobaculum tepidum*. *Journal of Biological Chemistry* **285**: 39544-39550. (R)
275. Collins AM, Qian P, Tang Q, Bocian DF, Hunter CN and Blankenship RE (2010) The light-harvesting antenna system from the phototrophic bacterium *Roseiflexus castenholzii*. *Biochemistry* **49**: 7524-7531. (R)
274. Blankenship RE (2010) Early evolution of photosynthesis. *Plant Physiology* **154**: 434-438. (R, IR).
273. Tang K-H and Blankenship RE (2010) Both forward and reverse TCA cycles operate in green sulfur bacteria. *Journal of Biological Chemistry* **285**: 35848-35854. (R)



272. Zhang H, Cui W, Wen J, Blankenship RE and Gross ML (2010) Native electrospray and electron-capture dissociation in FTICR mass spectrometry provide top-down sequencing of a protein component in an intact protein assembly. *Journal of the American Society for Mass Spectrometry* **21**: 1966-1968. (R)
271. Tang K-H, Urban VS, Wen J, Xin Y and Blankenship RE (2010) SANS investigation of the photosynthetic machinery of *Chloroflexus aurantiacus*. *Biophysical Journal* **99**: 2398-2407. (R)
270. Gao X, Xin Y, Bell PD, Wen J and Blankenship RE (2010) Structural analysis of Alternative Complex III in the Photosynthetic electron transfer chain of *Chloroflexus aurantiacus*. *Biochemistry* **49**: 6670-6679. (R)
269. Wen J, Harada J, Buyle K, Yuan K, Loomis RA, Tamiaki H, Oh-oka H, Blankenship RE (2010) Characterization of an FMO variant of *Chlorobaculum tepidum* carrying bacteriochlorophyll *a* esterified by geranylgeraniol. *Biochemistry* **49**: 5455-5463. (R)
268. Panitchayangkoon G, Hayes D, Fransted KA, Caram JR, Harel E, Wen J, Blankenship RE and Engel GS (2010) Long-lived quantum coherence in photosynthetic complexes at physiological temperature. *Proceedings of the National Academy of Sciences USA* **107**: 12766-12770. (R)
267. Niedzwiedzki DM, Collins AM, LaFountain AM, Enriquez MM, Frank HA and Blankenship RE (2010) Spectroscopic studies of carotenoid-to-bacteriochlorophyll energy transfer in LHRC photosynthetic complex from *Roseiflexus castenholzii*. *Journal of Physical Chemistry B* **114**: 8723-8734. (R)
266. Blankenship RE (2010) Photosynthesis: The Light Reactions. Chapter 7 in: *Plant Physiology*, 5th Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, 163-197. (R, IR)
265. Reinert F and Blankenship RE (2010) Evolutionary aspects of crassulacean acid metabolism. *Oecologia Australis* **14**: 359-368. (R)
264. Tang K-H, Yue H, Blankenship RE (2010) Energy metabolism of *Heliobacterium modesticaldum* during phototrophic and chemotrophic growth. *BMC Microbiology* **10**: 150. (R)
263. Collins AM, Redding KE and Blankenship RE (2010) Modulation of fluorescence in *Heliobacterium modesticaldum* cells. *Photosynthesis Research* **104**: 283-292. (R)
262. Lu Y-K, Marden J, Han M, Swingley WD, Mastrian SD, Chowdhury SR, Hao J, Helmy T, Kim S, Kurdoglu AA, Matthies HJ, Rollo D, Stothard P, Blankenship RE, Bauer CE, and Touchman JW (2010) Metabolic flexibility revealed in the genome of the cyst-forming alpha-1 proteobacterium *Rhodospirillum centenum*. *BMC Genomics* **11**: 325. (R)

261. Tsukatani Y, Wen J, Blankenship RE, and Bryant DA (2010) Characterization of the FMO protein from the aerobic chlorophototroph, *Candidatus Chloracidobacterium thermophilum*. *Photosynthesis Research* **104**: 201-209. (R)
260. Sattley WM and Blankenship RE (2010) Insights into heliobacterial photosynthesis and physiology from the genome of *Heliobacterium modesticaldum*. *Photosynthesis Research* **104**: 113-122. (R)
259. Modesto-Lopez LB, Thimsen EJ, Collins AM, Blankenship RE and Biswas P (2010) Electro spray-assisted characterization and deposition of chlorosomes to fabricate a biomimetic light-harvesting device. *Energy and Environmental Science* **3**: 216-222. (R)
258. Moulisová V, Luer L, Hoseinkhani S, Brotsudarmo THP, Collins AM, Lanzani G, Blankenship RE, Cogdell RJ (2009) Low light adaptation: Energy transfer processes in different types of light-harvesting complexes from *Rhodospseudomonas palustris*. *Biophysical Journal* **97**: 3019-3028. (R)
257. Gao X, Xin Y and Blankenship RE (2009) Enzymatic activity of the alternative complex III as a menaquinol:auracyanin oxidoreductase in the electron transfer chain of *Chloroflexus aurantiacus*. *FEBS Letters* **583**: 3275-3279. (R)
256. Tang K-H, Feng X, Tang Y and Blankenship RE (2009) Carbohydrate metabolism and carbon fixation in *Roseobacter denitrificans* OCh114. *PLoS One* **4**: e7233 1-12. (R)
255. Pšenčík J, Collins AM, Liljeroos L, Torkkeli M, Laurinmäki P, Ansink HM, Ikonen TP, Serimaa RE, Blankenship RE, Tuma R, Butcher SJ (2009) Structure of the chlorosomes from green filamentous bacterium *Chloroflexus aurantiacus*. *Journal of Bacteriology* **191**: 6701-6708. (R)
254. Tang K-H, Wen J, Li X and Blankenship RE (2009) The role of the AcsF protein in *Chloroflexus aurantiacus*. *Journal of Bacteriology* **191**: 3580-3587. (R)
253. Bell P, Xin Y and Blankenship RE (2009) Purification and characterization of cytochrome  $c_6$  from *Acaryochloris marina*. *Photosynthesis Research* **102**: 43-51. (R)
252. Collins AM, Xin Y, and Blankenship RE (2009) Pigment organization in the photosynthetic apparatus of *Roseiflexus castenholzii*. *Biochimica et Biophysica Acta* **1787**: 1050-1056. (R)
251. Wen J, Zhao H, Gross ML and Blankenship RE (2009) Membrane orientation of the FMO antenna protein from *Chlorobaculum tepidum* as determined by mass spectrometry based footprinting. *Proceedings of the National Academy of Sciences USA* **106**: 6134-6139. (R)
250. Tronrud DE, Wen J, Gay L, and Blankenship RE (2009) The structural basis for the difference in absorbance spectra for the FMO antenna protein from various green sulfur bacteria. *Photosynthesis Research* **100**: 79-87. (R)

249. Björn LO, Papageorgiou GC, Blankenship RE and Govindjee (2009) A viewpoint: why chlorophyll *a*? *Photosynthesis Research* **99**: 85-98. (R)
248. Lee M, del Rosario MC, Harris HH, Blankenship RE, Guss JM and Freeman HC (2009) The crystal structure of auracyanin A at 1.85 Å resolution: The structures and functions of auracyanins A and B, two almost identical 'blue' copper proteins, in the photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Biological Inorganic Chemistry* **14**: 329-345. (R)
247. Xin Y, Lu Y-K, Fromme R, Fromme P and Blankenship RE (2009) Purification, characterization and crystallization of menaquinol:fumarate oxidoreductase from the green filamentous photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **1787**: 86-96. (R)
246. Swingley WD, Blankenship RE and Raymond J (2009) Evolutionary relationships among purple photosynthetic bacteria and the origin of proteobacterial photosynthetic systems. In: *The Purple Photosynthetic Bacteria*, Eds., Hunter CN, Daldal F, Thurnauer M and Beatty JT, Springer, Dordrecht, pps. 17-29. (IR)
245. Sattley WM, Madigan MT, Swingley WD, Cheung PC, Clocksin KM, Conrad AL, Dejesa LC, Honchak BM, Jung DO, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Page LE, Taylor HL, Wang ZT, Raymond J, Chen M, Blankenship RE and Touchman JW (2008) The genome of *Heliobacterium modesticaldum*, a phototrophic representative of the *Firmicutes* containing the simplest photosynthetic apparatus. *Journal of Bacteriology* **190**: 4687-4696. (R)
244. Read EL, Schlau-Cohen GS, Engel GS, Wen J, Blankenship RE, Fleming GR (2008) Visualization of excitonic structure in the fenna-matthews-olson photosynthetic complex by polarization-dependent two-dimensional electronic spectroscopy. *Biophysical Journal* **95**: 847-856. (R)
243. Rathgeber C, Lince M, Alric J, Lang AS, Humphrey E, Blankenship RE, Verméglio A, Plumley FG, Van Dover CL, Beatty JT and Yurkov V (2008) Vertical distribution and characterization of aerobic phototrophic bacteria at the Juan de Fuca Ridge in the Pacific Ocean. *Photosynthesis Research* **97**: 235-244. (R)
242. Swingley WD, Chen M, Cheung PC, Conrad AL, Dejesa LC, Hao J, Honchak BM, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Miyashita H, Page LE, Ramakrishna P, Satoh S, Sattley WM, Shimada Y, Taylor HL, Tomo T, Tsuchiya T, Wang ZT, Raymond J, Mimuro M, Blankenship RE and Touchman JW (2008) Niche adaptation and genome expansion in the chlorophyll *d*-producing cyanobacterium *Acaryochloris marina*. *Proceedings of the National Academy of Sciences USA* **105**: 2005-2010. (R)
241. Rensing SA, Lang D, Zimmer A, Terry A, Salamov A, Shapiro H, Nishiyama T, Perroud P-F, Lindquist E, Kamisugi Y, Tanahashi T, Sakakibara K, Fujita T, Oishi K, Shin-I T, Kuroki Y, Toyoda A, Suzuki Y, Hashimoto S, Yamaguchi K, Sugano S, Kohara Y, Fujiyama A, Anterola A, Aoki S, Ashton N, Barbazuk WB, Barker E, Bennetzen J, Blankenship R, Cho SH, Dutcher S,

- Estelle M, Fawcett JA, Gundlach H, Hanada K, Heyl A, Hicks KA, Hughes J, Lohr M, Mayer K, Melkozernov A, Murata T, Nelson D, Pils B, Prigge M, Reiss B, Renner T, Rombauts S, Rushton P, Sanderfoot A, Schween G, Shiu S-H, Stueber K, Theodoulou FL, Tu H, Van de Peer Y, Verrier PJ, Waters E, Wood A, Yang L, Cove D, Cuming AC, Hasebe M, Lucas S, Mishler BD, Reski R, Grigoriev I, Quatrano RS and Boore JL (2008) The *Physcomitrella genome* reveals evolutionary insights into the conquest of land by plants. *Science* **319**: 64-69. (R)
240. Chen M, Zhang Y and Blankenship RE (2008) Nomenclature for membrane-bound light-harvesting complexes of cyanobacteria. *Photosynthesis Research* **95**: 147-154. (R)
239. Blankenship RE and Haffa A (2008) Why we need to teach the evolution of photosynthesis. In: *Photosynthesis. Energy from the Sun: 14th International Congress on Photosynthesis*, Allen JF, Gantt E, Golbeck JH & Osmond B, Eds, Springer, Dordrecht, pps. 1613–1617. (CP)
238. Swingley WD, Blankenship RE and Raymond J (2008) Integrating Markov clustering and molecular phylogenetics to reconstruct the cyanobacterial species tree from conserved protein families. *Molecular Biology and Evolution* **25**: 1-12. (R)
237. Hohmann-Marriott M and Blankenship RE (2008) Anoxygenic type I photosystems and evolution of photosynthetic reaction centers. In: *Photosynthetic Protein Complexes: A Structural Approach*, Fromme P, Ed, Wiley-VCH, Weinheim, Germany, pps 295-324. (IR)
236. Raymond J and Blankenship RE (2008) The origin of the oxygen-evolving complex. *Coordination Chemistry Reviews* **252**: 377-383. (IR, R)
235. Blankenship RE, Raymond J, Staples C and Mukhopadhyay B (2008) Evolution of functional diversity in nitrogenase homologs. In: *Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15<sup>th</sup> International Nitrogen Fixation Congress*. Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C and Newton WE, Eds, Springer, pps. 305-306. (CP)
234. Blankenship RE (2007), Photosynthesis: Energy Capture, in Hooper JK (Ed.), *Chloroplast: The Organelle that Sustains Us*, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://www.hstalks.com/?t=BL0431431-Blankenship>) (MM)
233. Blankenship RE (2007) 2007 Awards of the International Society of Photosynthesis Research (ISPR). *Photosynthesis Research* **94**: 179-181. (CP)
232. Xin Y, Lin S and Blankenship RE (2007) Femtosecond spectroscopy of the primary charge separation in reaction centers of *Chloroflexus aurantiacus* with selective excitation in Qy and Soret bands. *Journal of Physical Chemistry A* **111**: 9367-9373. (R)
231. Swingley WD, Blankenship RE and Raymond J, (2007) Insights into cyanobacterial evolution from comparative genomics. In: *Genomics and Molecular Biology of Cyanobacteria*, Herrero A and Flores E, Eds, Horizon Scientific Press, Norwich, UK. pps. 22-43. (IR)

230. Staples CR, Lahiri S, Raymond J, Von Herbulis L, Mukhophadhyay B and Blankenship RE (2007) The expression and association of group IV nitrogenase NifD And NifH homologs in the non-nitrogen fixing Archaeon *Methanocaldococcus jannaschii*. *Journal of Bacteriology* **189**: 7392-7398. (R)
229. Read EL, Engel GS, Calhoun TR, Mancal T, Ahn TK, Blankenship RE and Fleming GR (2007) Cross-peak specific two-dimensional electronic spectroscopy. *Proceedings of the National Academy of Sciences USA* **104**: 14203-14208. (R)
228. Hohmann-Marriott M and Blankenship RE, (2007) Hypothesis on chlorosome biogenesis in green photosynthetic bacteria. *FEBS Letters* **581**: 800-803. (R)
227. Engel GS, Calhoun TR, Read EL, Ahn TK, Mancal T, Cheng Y-C, Blankenship RE and Fleming GR (2007) Evidence for wavelike energy transfer through quantum coherence in photosynthetic systems. *Nature* **446**: 782-786. (R)
226. van de Meene AML, Olson TL, Collins AM and Blankenship RE (2007) Initial characterization of the photosynthetic apparatus of "*Candidatus Chlorothrix halophila*": A filamentous, anoxygenic photoautotroph. *Journal of Bacteriology* **189**: 4196-4203. (R)
225. Olson TL, van de Meene AML, Francis JN, Pierson BK and Blankenship RE (2007) Pigment analysis of "*Candidatus Chlorothrix halophila*", a green filamentous anoxygenic phototrophic bacterium. *Journal of Bacteriology* **189**: 4187-4195. (R)
224. Govindjee, Blankenship RE and Shopes RJ (2007) Bacterial Photosynthesis, In: *McGraw-Hill Encyclopedia of Science and Technology*, McGraw-Hill, NY, DOI 10.1036/1097-8542.511700. <http://www.accessscience.com/content.aspx?id=511700> (IR)
223. Blankenship RE and Govindjee (2007) Photosynthesis, In: *McGraw-Hill Encyclopedia of Science and Technology*, McGraw-Hill, NY, DOI 10.1036/1097-8542.511700. <http://www.accessscience.com/content.aspx?id=511700> (IR)
222. Hohmann-Marriott M and Blankenship RE (2007) Variable fluorescence in green sulfur bacteria. *Biochimica et Biophysica Acta* **1767**: 106-113. (R)
221. Blankenship RE, Sadekar S and Raymond J (2007) The evolutionary transition from anoxygenic to oxygenic photosynthesis. In: *Evolution of Aquatic Photoautotrophs*, Falkowski P and Knoll AN, Eds, Academic Press, New York, pps 21-35. (IR)
220. Kiang N, Segura A, Tinetti G, Govindjee, Blankenship RE, Cohen M, Siefert J, Crisp D and Meadows VS (2007) Spectral signatures of photosynthesis. II. Coevolution with other stars and the atmosphere on extrasolar worlds. *Astrobiology* **7**: 252-274. (R)
219. Kiang N, Siefert J, Govindjee, Blankenship RE, (2007) Spectral signatures of photosynthesis. I. Review of earth organisms. *Astrobiology* **7**: 222-251. (R)

218. Swingley WD, Sadekar S, Mastrian SD, Matthies HJ, Hao J, Ramos H, Acharya CR, Conrad AL, Taylor HL, Dejesa LC, Shah MK, O'Huallachain ME, Lince MT, Blankenship RE, Beatty JT and Touchman JW (2007) The complete genome sequence of *Roseobacter denitrificans* reveals a mixotrophic rather than photosynthetic metabolism. *Journal of Bacteriology* **189**: 683-690. (R)
217. Melkozernov AN and Blankenship RE (2006) Photosynthetic functions of chlorophylls. In: *Advances in Photosynthesis and Respiration*, Vol. 25, B Grimm, RJ Porra, W Rüdiger and H Scheer, Eds, *Chlorophylls and Bacteriochlorophylls: Biochemistry, Biophysics, Functions and Applications*. Springer, Dordrecht, 397-412. (IR)
216. Brixner T, Stenger J, Vaswani HM, Cho M, Blankenship RE and Fleming GR (2006) Electronic 2D spectroscopy of light harvesting. In: *Femtochemistry VII: Fundamental Ultrafast Processes in Chemistry, Physics and Biology*, Castleman AW Jr., Kimble ML, Eds., Elsevier Science, 331-336. (CP)
215. Sadekar S, Raymond J and Blankenship RE (2006) Conservation of distantly-related membrane proteins: photosynthetic reaction centers share a common structural core. *Molecular Biology and Evolution* **23**: 2001-2007. (R)
214. Blankenship RE (2006) Photosynthesis: The Light Reactions. Chapter 7 in: *Plant Physiology*, 4<sup>th</sup> Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, 125-158. (IR, R)
213. Raymond J and Blankenship RE (2006) How did the Photosystem I reaction center evolve? In: *Photosystem I: The Light-Driven, Plastocyanin:Ferredoxin Oxidoreductase*. J Golbeck, Ed, Springer, Dordrecht, pps 669-682. (IR)
212. Melkozernov AN, Barber J and Blankenship RE (2006) Light harvesting in photosystem I supercomplexes. *Biochemistry* **45**: 331-345. (IR, R)
211. Chen M, Telfer A, Lin S, Pascal A, Larkum AWD, Barber J and Blankenship RE (2005) The nature of the Photosystem II reaction centre in the chlorophyll *d* containing prokaryote, *Acaryochloris marina*. *Photochemical and Photobiological Sciences* **4**: 1060-1064. (R)
210. Swingley WD, Hohmann-Marriott MF, Olson TL and Blankenship RE (2005) Effect of iron on growth and ultrastructure of *Acaryochloris marina*. *Applied and Environmental Microbiology* **71**: 8606-8610. (R)
209. Dismukes GC and Blankenship RE (2005) The origin and evolution of photosynthetic oxygen production. In: *Photosystem II: The Water/Plastoquinone Oxido-Reductase In Photosynthesis*. Wydrzynski T and Satoh K, Eds, Springer, Dordrecht, 683-695. (R, IR)
208. Yocum CF, Blankenship RE and Ferguson-Miller S (2005) Dedication/personal perspective: a tribute to Jerry Babcock. In: *Photosystem II: The Water/Plastoquinone Oxido-Reductase In Photosynthesis*. Wydrzynski T and Satoh K, Eds, Springer, Dordrecht, 1-10. (R, IR)

207. Hohmann-Marriott MF, Blankenship RE, Sharp W and Roberson RW (2005) Digital position determination system for electron microscopy. *Microscopy Research and Technique* **67**: 106-111. (R)
206. Yanyushin MF, del Rosario M, Brune DC and Blankenship RE (2005) A new class of bacterial membrane oxidoreductases. *Biochemistry* **44**: 10037-10045. (R)
205. Beatty JT, Overmann J, Lince MT, Manske AK, Lang AS, Blankenship RE, Van Dover CL, Martinson TA and Plumley FG (2005) An obligately photosynthetic bacterial anaerobe from a deep-sea hydrothermal vent. *Proceedings of the National Academy of Sciences USA* **102**: 9306-9310. (R)
204. Melkozernov AN, Kargul J, Lin S, Barber J and Blankenship RE (2005) Spectral and kinetic analysis of the energy coupling in the PSI-LHCI supercomplex from the green alga *Chlamydomonas reinhardtii* at 77 K. *Photosynthesis Research* **86**: 203-216. (R)
203. Xin Y, Lin S, Montano GA and Blankenship RE (2005) Purification and characterization of the B808-866 light-harvesting complexes from the green filamentous bacterium *Chloroflexus aurantiacus*. *Photosynthesis Research* **86**: 155-163. (R)
202. Hohmann-Marriott MF, Blankenship RE, Roberson RW (2005) The ultrastructure of *Chlorobium tepidum* chlorosomes revealed by electron microscopy. *Photosynthesis Research* **86**: 145-154. (R)
201. Niederman RA, Frank HA and Blankenship RE (2005) An introduction to the special issue on photosynthetic antenna pigments and complexes. *Photosynthesis Research* **86**: 1-3. (IR)
200. Melkozernov AN and Blankenship RE (2005) Structural and functional organization of the peripheral light-harvesting system in Photosystem I. *Photosynthesis Research* **85**: 33-50. (IR, R)
199. Staples CR and Blankenship RE (2005) Photosynthesis. In: *Encyclopedia of Inorganic Chemistry, 2<sup>nd</sup> Edition*, R. B. King, Ed., John Wiley, Chichester, Vol. VII, pps 4459-4487. (IR)
198. Melkozernov, A. N., Kargul, J., Lin, S., Barber, J., and Blankenship R. (2005) Excited state dynamics in the PSI-LHCI supercomplex from *Chlamydomonas reinhardtii*: excitation wavelength dependence study. In: *Photosynthesis: Fundamental Aspects to Global Perspectives*, A. van der Est, D. Bruce, Eds, Vol. 1, pp. 178-180, Allen Press, Lawrence, KS, USA. (CP)
197. Xin Y, Lin S, Montano GA and Blankenship RE (2005) Structure analysis and excitation transfer dynamics in B808–866 light-harvesting complexes of the green bacterium *Chloroflexus aurantiacus* In: *Photosynthesis: Fundamental Aspects to Global Perspectives*, A. van der Est, D. Bruce, Eds, Vol. 1, pp 111-112, Allen Press, Lawrence, KS, USA. (CP)

196. Brixner T, Stenger J, Vaswani HM, Cho M, Blankenship RE and Fleming GR (2005) Two-dimensional spectroscopy of electronic couplings in photosynthesis *Nature* **434**: 625-629. (R)
195. Blankenship RE (2005) Natural organic photosynthetic solar energy transduction. In: *Organic Photovoltaics: Mechanisms, Materials and Devices*, S-S Sun and S Sariciftci, Eds. CRC Press, Boca Raton, FL pps. 37-48. (IR)
194. Miller SR, Augustine S, Olson TL, Blankenship RE, Selker J and Wood AM (2005) Discovery of a free-living chlorophyll *d*-producing cyanobacterium with a hybrid proteobacterial cyanobacterial small-subunit rRNA gene. *Proceedings of the National Academy of Sciences USA* **102**: 850-855. (R)
193. Raymond J and Blankenship RE (2004) Biosynthetic pathways, gene replacement and the antiquity of life. *Geobiology* **2**: 199–203. (R)
192. Blankenship RE (2004) Identification of a key step in the biosynthetic pathway of bacteriochlorophyll *c* and its implications for other known and unknown green sulfur bacteria. *Journal of Bacteriology* **186**: 5187-5188. (IR)
191. Melkozernov AN, Kargul J, Lin S, Barber J and Blankenship RE (2004) Energy coupling in the PSI-LHCI supercomplex from the green alga *Chlamydomonas reinhardtii*. *Journal of Physical Chemistry B* **108**: 10547-10555. (R)
190. Montaña GA, Xin Y, Lin S and Blankenship RE (2004) Carotenoid and bacteriochlorophyll energy transfer in the B808-866 complex from *Chloroflexus aurantiacus*. *Journal of Physical Chemistry B* **108**: 10607-10611. (R)
189. Ilagan RP, Shima S, Melkozernov A, Lin S, Blankenship RE, Sharples FP, Hiller RG, Birge RR and Frank HA (2004) Spectroscopic properties of the main-form and high-salt peridinin-chlorophyll *a*-proteins from *Amphidinium carterae*. *Biochemistry* **43**: 1478-1487. (R)
188. Oh-oka H and Blankenship RE (2004) Green bacteria: Secondary electron donor (cytochromes) *Encyclopedia of Biological Chemistry*, Lennarz WJ and Lane MD, Eds., Elsevier, Oxford, **2**: 321-324. (IR)
187. Lancaster VR, LoBrutto R, Selvaraj FM and Blankenship RE (2004) A cambialistic superoxide dismutase in the thermophilic photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Bacteriology* **186**: 3408-3414. (R)
186. Raymond J and Blankenship RE (2004) The evolutionary development of the protein complement of Photosystem 2. *Biochimica et Biophysica Acta* **1655**: 133– 139 (R, IR)
185. Olson JM and Blankenship RE (2004) Thinking about the evolution of photosynthesis. *Photosynthesis Research* **80**: 373-386. (R, IR)



184. Gest H and Blankenship RE (2004) Time line of discoveries: Anoxygenic bacterial photosynthesis. *Photosynthesis Research* **80**: 59-70. (R, IR)
183. Raymond J, Siefert J, Staples C and Blankenship RE (2004) The natural history of nitrogen fixation. *Molecular Biology and Evolution* **21**: 541-554. (R)
182. Melkozernov AN and Blankenship RE (2003) Structural modeling of the Lhca4 subunit of LHCI-730 peripheral antenna in photosystem I based on similarity with LHCII. *Journal of Biological Chemistry* **278**: 44542 - 44551. (R)
181. Montañño GA, Bowen BP, LaBelle JT, Woodbury NW, Pizziconi VB and Blankenship RE (2003) Characterization of *Chlorobium tepidum* chlorosomes - A calculation of bacteriochlorophyll c per chlorosome and oligomer modeling. *Biophysical Journal* **85**: 2560-2565. (R)
180. Montañño GA, Wu H-M, Lin S, Brune DC and Blankenship RE (2003) Isolation and characterization of the B798 baseplate light-harvesting complex from the chlorosomes of *Chloroflexus aurantiacus*. *Biochemistry* **42**: 10246-10251. (R)
179. Raymond J and Blankenship RE (2003) Horizontal gene transfer in eukaryotic algal evolution. *Proceedings of the National Academy of Sciences USA* **100**: 7419-7420. (IR)
178. Melkozernov AN, Bibby TS, Lin S, Barber J and Blankenship RE (2003) Time-resolved absorption and emission show that CP43' antenna ring of iron stressed *Synechocystis* sp. PCC6803 is efficiently coupled to the Photosystem I reaction center core. *Biochemistry* **42**: 3893-3903. (R)
177. Camara-Artigas A, Blankenship RE and Allen JP (2003) The structure of the FMO protein from *Chlorobium tepidum* at 2.2 Å resolution. *Photosynthesis Research* **75**: 49-55. (R)
176. Raymond J, Zhaxybayeva O, Gogarten JP and Blankenship RE (2003) Evolution of photosynthetic prokaryotes: a maximum likelihood mapping approach. *Phil. Trans of the Royal Soc. B* **358**: 223-230. (R)
175. Mi D, Chen M, Lin S, Lince M, Larkum AWD and Blankenship RE (2003) Excitation dynamics in the core antenna in the photosystem I reaction center of the chlorophyll *d*-containing photosynthetic prokaryote *Acaryochloris marina*. *Journal of Physical Chemistry B* **107**: 1452-1457. (R)
174. Rooney MD, Honeychurch MJ, Selvaraj FM, Blankenship RE, Bond AM and Freeman HC (2003) A thin-film electrochemical study of 'blue' copper proteins, auracyanin A and auracyanin B, from the photosynthetic bacterium *Chloroflexus aurantiacus*: The reduction potential as a function of pH. *Journal of Biological Inorganic Chemistry* **8**: 306-317. (R)

173. Blankenship RE and Matsuura K (2003) Antenna complexes from green photosynthetic bacteria. In: *Light-Harvesting Antennas*, Green BR and Parson WW, eds. (Dordrecht: Kluwer), 195-217. (IR)
172. Blankenship RE (2002) Photosynthesis: The light reactions. In: *Plant Physiology, 3rd Ed.* Taiz L and Zeiger E, Sinauer Associates, Sunderland MA, 111-143. (R, IR)
171. LaBelle, JT, Montaña GA, Blankenship RE and Pizziconi VB (2002) Nanoengineered biophotonic hybrid device. Proceedings of the Second Joint EMBS/BMES Conference Houston, TX USA. DOI:10.1109/IEMBS.2002.1106585 (CP)
170. Raymond J, Zhaxybayeva O, Gerdes S, Gogarten JP and Blankenship RE (2002) Whole genome analysis of photosynthetic prokaryotes. *Science* **298**: 1616-1620 (R)
169. Melkozernov AN, Schmid VHR, Lin S, Paulsen H and Blankenship RE (2002) Excitation energy transfer in the Lhca1 subunit of LHC I-730 peripheral antenna of Photosystem I. *Journal of Physical Chemistry B* **106**: 4313-4317. (R)
168. Hu D and Blankenship RE (2002) Rapid one step purification of the BChl-a containing FMO-protein from the green sulfur bacterium *Chlorobium tepidum* using a high efficiency immunomatrix. *Photosynthesis Research* **71**: 149-154. (R)
167. Blankenship RE (2002) *Molecular Mechanisms of Photosynthesis*. Blackwell Science, Oxford, UK. (B)
166. Jermiin LS, Blankenship RE, Lockhart PJ and Larkum AWD (2001) Phylogenetic reconstruction of ancient photosynthetic lineages using chlorophyll and bacteriochlorophyll biosynthetic genes. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
165. Montaña GA, Bowen BP, LaBelle JT, Woodbury NW, Pizziconi VB and Blankenship RE (2001) Determination of the number of bacteriochlorophyll molecules per chlorosome light-harvesting complex in *Chlorobium tepidum*. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
164. Melkozernov AN, Lin S, Schmid VHR, Lago-Places E, Paulsen H and Blankenship RE (2001) Molecular origin of red pigments in a peripheral light-harvesting antenna of Photosystem I: Ultrafast absorption spectroscopy of recombinant Lhca4. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
163. Blankenship RE, Raymond J, Lince M, Larkum AWD, Jermiin LS, Lockhart PJ, Zhaxybayeva O and Gogarten JP (2001) Evolution of photosynthetic antennas and reaction centers. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)

162. Gibasiewicz K, Ramesh VM, Melkozernov AN, Lin S, Woodbury NW, Blankenship RE and Webber AN (2001) Excitation dynamics in the core antenna of Photosystem I from *Chlamydomonas reinhardtii* CC 2696 at room temperature. *Journal of Physical Chemistry B* **105**: 11498-11506. (R)
161. Yocum C, Ferguson-Miller S and Blankenship RE (2001) Obituary: Gerald T. Babcock (1946-2000). *Photosynthesis Research* **68**: 89-94. (IR)
160. Melkozernov AN, Lin S, Blankenship RE and Valkunas L (2001) Spectral inhomogeneity of photosystem I and its influence on excitation equilibration and trapping in the cyanobacterium *Synechocystis* sp. PCC6803 at 77K. *Biophysical Journal* **81**: 1144-1154. (R)
159. Kolber ZS, Plumley FG, Lang AS, Beatty JT, Blankenship RE, Van Dover CL, Vetriani C, Koblizek M, Rathgeber C and Falkowski PG (2001) Contribution of aerobic photoheterotrophic bacteria to the carbon cycle in the ocean. *Science* **292**: 2492-2495. (R)
158. Blankenship RE (2001) It takes two to tango. *Nature Structural Biology* **8**: 94-95. (IR)
157. Blankenship RE (2001) Molecular evidence for the evolution of photosynthesis, *Trends in Plant Science* **6**: 4-6. (IR, R)
156. Bond C, Blankenship RE, Freeman H, Guss JM, Maher M, Selvaraj F, Wilce M and Willingham K (2001) Crystal structure of auracyanin, a 'blue' copper protein from the green thermophilic photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Molecular Biology* **306**: 47-67. (R)
155. Wu H-M, Rätsep M, Young CS, Jankowiak R, Blankenship RE and Small GJ (2000) High pressure and stark hole burning studies of chlorosome antennas from green sulfur bacterium *Chlorobium tepidum*. *Biophysical J.* **79**: 1561-1572. (R)
154. Melkozernov A, Lin S, Schmid VHR, Paulsen H, Schmidt GW and Blankenship RE (2000) Ultrafast excitation dynamics of low energy pigments in reconstituted peripheral light harvesting complexes of photosystem I. *FEBS Letters* **471**: 89-92. (R)
153. Melkozernov A, Lin S, Blankenship RE (2000) Femtosecond transient spectroscopy and excitonic interactions in Photosystem I. *Journal of Physical Chemistry B* **104**: 1651-1656. (R)
152. Melkozernov A, Lin S and Blankenship RE (2000) Excitation dynamics and heterogeneity of energy equilibration in the core antenna of Photosystem I from the cyanobacterium *Synechocystis* sp. PCC 6803. *Biochemistry* **39**: 1489-1498. (R)
151. Mi D, Lin S and Blankenship RE (1999) Picosecond transient absorption spectroscopy in the blue spectral region of Photosystem I. *Biochemistry* **38**: 15231-15237. (R)

150. Rätsep M, Blankenship RE and Small GJ (1999) Energy transfer and spectral dynamics of the three lowest energy  $Q_Y$ -states of the Fenna-Matthew-Olson antenna complex. *Journal of Physical Chemistry B* **103**: 5736-5741. (R)
149. Van Driessche G, Hu W, Van de Werken, G, Selvaraj F., McManus JD, Blankenship RE and Van Beeumen JJ (1999) Auracyanin A from the green gliding photosynthetic bacterium *Chloroflexus aurantiacus* represents an unusual class of small blue copper proteins. *Protein Science* **8**: 947-957. (R)
148. Selvaraj F, Devine D, Zhou W, Brune DC, Lince MT and Blankenship RE (1998) Purification and properties of cytochrome *c*-553 from the green sulfur bacterium *Chlorobium tepidum*. Proc. XIth Inter. Congress Photosynthesis, In: *Photosynthesis: Mechanisms and Effects, Vol. III*, Garab G, ed. (Dordrecht: Kluwer), 1593-1596. (CP)
147. Melkozernov A, Lin S and Blankenship RE (1998) Energy equilibration in the antenna of Photosystem I from Cyanobacterium *Synechocystis SP.* PCC 6803. Proc. XIth Inter. Congress Photosynthesis, In: *Photosynthesis: Mechanisms and Effects, Vol. I*, Garab G, ed. (Dordrecht: Kluwer), 405-408. (CP)
146. Schweitzer R, Melkozernov AN, Blankenship RE and Brudvig G (1998) Time-resolved fluorescence measurements of Photosystem II: The effect of quenching by oxidized chlorophyll Z. *Journal of Physical Chemistry* **102**: 8320-8326. (R)
145. Melkozernov AN, Schmid VHR, Schmidt GW and Blankenship RE (1998) energy redistribution in heterodimeric light harvesting complex LHC1-730 of Photosystem I. *Journal of Physical Chemistry* **102**: 8183-8189. (R)
144. Savikhin S, Buck DR, Struve WS, Blankenship RE, Taisova AS, Novoderezhkin VI, Fetisova ZG (1998) Excitation delocalization in the bacteriochlorophyll *c* antenna of the green bacterium *Chloroflexus aurantiacus* as revealed by ultrafast pump-probe spectroscopy. *FEBS Letters* **430**: 323-326. (R)
143. Blankenship RE (1998) Photosynthesis: The Light Reactions. Chapter in: *Plant Physiology*, 2nd ed., Taiz L and Zeiger E, eds. (Sinauer Associates, Inc.), 155-193. (R, IR)
142. Blankenship RE and Hartman H (1998) The origin and evolution of oxygenic photosynthesis. *Trends in Biochemical Sciences* **23**: 94-97. (R)
141. Oh-oka H, Kamei S, Matsubara H, Lin S, van Noort PI and Blankenship RE (1998) Transient absorption spectroscopy of energy transfer and trapping processes in the reaction center of *Chlorobium tepidum*. *Journal of Physical Chemistry* **102**: 8190-8195. (R)
140. Rätsep M, Wu H-M, Hayes JM, Blankenship RE, Cogdell RJ and Small GJ (1998) Stark hole-burning studies of three photosynthetic complexes. *Journal of Physical Chemistry* **102**: 4035-4044. (R)

139. Novoderezhkin VI, Taisova AS, Fetisova ZG, Blankenship RE, Savikhin S, Buck DR and Struve WS (1998) Energy transfers in the B808-866 antenna from the green bacterium *Chloroflexus aurantiacus*. *Biophysical Journal* **74**: 2069 - 2075. (R)
138. Melkozernov AN, Olson JM, Li YF, Allen JP and Blankenship RE (1998) Orientation and excitonic interactions of the Fenna-Matthews-Olson protein in membranes of the green sulfur bacterium *Chlorobium tepidum*. *Photosynthesis Research* **56**: 315-328. (R)
137. Melkozernov AN, Su H, Webber AN and Blankenship RE (1998) Excitation energy transfer in thylakoid membranes from *Chlamydomonas reinhardtii* lacking chlorophyll *b* and with mutant Photosystem I. *Photosynthesis Research* **56**: 197-207. (R)
136. Lee WY, Blankenship RE and Kim SH (1997) Isolation and characterization of a novel membrane-bound cytochrome *c553* from the strictly anaerobic phototroph, *Heliobacillus mobilis*. *Journal of Microbiology* **35**: 206-212. (R)
135. Freiberg A, Lin S, Timpmann K and Blankenship RE (1997) Exciton dynamics in FMO bacteriochlorophyll-protein at low temperature. *Journal of Physical Chemistry B* **101**: 7211-7220. (R)
134. Li YF, Zhou W, Blankenship RE and Allen J (1997) Crystal structure of the bacteriochlorophyll *a* protein from *Chlorobium tepidum*. *Journal of Molecular Biology* **271**: 456 - 471. (R)
133. van Noort PI, Zhu Y, LoBrutto R and Blankenship RE (1997) Redox-effects on the excited-state lifetime in chlorosomes and bacteriochlorophyll *c* oligomers. *Biophysical Journal* **72**: 316-325. (R)
132. Melkozernov AN, Lin S, Su H, Bingham S, Webber AN and Blankenship RE (1997) Specific mutation near the primary donor in Photosystem I from *Chlamydomonas reinhardtii* alters the trapping time and spectroscopic properties of P700. *Biochemistry* **36**: 2898 - 2907. (R)
131. Chiou HC, Lin S and Blankenship RE (1997) Time-resolved spectroscopy of energy transfer and trapping upon selective excitation in membranes of *Heliobacillus mobilis* at low temperature. *Journal of Physical Chemistry* **101**: 4136 - 4141. (R)
130. Blankenship RE (1996) Book review of *Protein Electron Transfer*, D. S. Bendall, Ed, Bios Scientific Publishers, Oxford, UK, 1996. *FEBS Letters* **398**: 339. (BR)
129. Griffiths WT, McHugh T and Blankenship RE (1996) The light intensity dependence of protochlorophyllide photoconversion and its significance to the catalytic mechanism of protochlorophyllide reductase. *FEBS Letters* **398**: 235 - 238. (R)
128. Blankenship RE (1996) Chlorosome antennas from green photosynthetic bacteria. *Spectrum* **9:3**: 2-7. (IR)

127. Gulbinas V, Valkunas L, Kuciauskas D, Katilius E, Liuolia V, Zhou W and Blankenship RE (1996) Singlet-singlet annihilation and local heating in FMO complexes. *Journal of Physical Chemistry* **100**: 17950-17956. (R)
126. Savikhin S, Zhu Y, Blankenship RE and Struve WS (1996) Ultrafast energy transfer in chlorosomes from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Physical Chemistry* **100**: 17978 - 17980. (R)
125. Blankenship RE (1996) Photosynthetic antennas and reaction centers: Current understanding and prospects for improvement. In: *Research Opportunities in Photochemical Sciences*, Nozik AJ, Ed. Nrel/cp-450-21097; de96007867. (IR, CP)
124. Freiberg A, Lin S, Zhou W and Blankenship RE (1996) Ultrafast relaxation of excitons in the bacteriochlorophyll antenna proteins from green photosynthetic bacteria. In: *Ultrafast Processes in Spectroscopy*, Svelto O, De Silvestri S and Denardo G, Eds., Plenum Press, New York, pp. 493-496. (CP)
123. Lyubchenko YL, Blankenship RE, Gall AA, Lindsay SM, Thiemann O, Simpson L and Shlyakhtenko LS (1996) Atomic force microscopy of DNA, nucleoproteins and cellular complexes: The use of functionalized substrates. *Scanning Microscopy* **10**: 97-109. (R)
122. Chiou HC and Blankenship RE, (1996) Temperature-dependence of charge recombination in *Heliobacillus mobilis*. *Photochemistry and Photobiology* **64**: 32-37. (R)
121. Lopez J, Ryan S and Blankenship RE (1996) Sequence of the *bchG* Gene from *Chloroflexus aurantiacus*: The relationship between chlorophyll synthase and other polyprenyltransferases. *Journal of Bacteriology* **178**: 3369-3373. (R)
120. Freiberg A, Lin S, Timpmann K and Blankenship RE (1996) Ultrafast inter-exciton relaxation and heating/cooling dynamics in bacteriochlorophyll proteins. In: *Excitonic Processes in Condensed Matter* Schreiber M, Ed., Dresden University Press, pp. 275-278. (CP)
119. Diers JR, Zhu Y, Blankenship RE and Bocian DF, (1996) Qy-excitation resonance Raman spectra of chlorophyll *a* and bacteriochlorophyll *c/d* aggregates. Effects of peripheral substituents on the low-frequency vibrational characteristics. *Journal of Physical Chemistry* **100**: 8573- 8579. (R)
118. Savikhin S, Zhu Y, Blankenship RE and Struve WS, (1996) Ultrafast energy transfer in chlorosomes from the green photosynthetic bacterium *Chloroflexus aurantiacus*, *Journal of Physical Chemistry* **100**: 3320-3322. (R)
117. Zhu Y, Lin S, Ramakrishna BL, van Noort PI and Blankenship RE (1996) Self quenching of chlorosome chlorophylls in water and hexanol-saturated water. *Photosynthesis Research* **47**: 207-218. (R)

116. Hastings G, Reed LJ, Lin S and Blankenship RE (1995) Excited state dynamics in Photosystem I: Effects of detergent and excitation wavelength. *Biophysical Journal* **69**: 2044-2055. (R)
115. Hastings G, Hoshina S, Webber AN and Blankenship RE (1995) Universality of energy and electron transfer processes in Photosystem I. *Biochemistry* **34**: 15512-15522. (R)
114. Lin S, Chiou HC, Blankenship RE (1995) Secondary electron transfer processes in membranes of *Heliobacillus mobilis*. *Biochemistry* **34**: 12761-12767. (R)
113. Frank HA, Cua A, Chynwat V, Young AJ, Zhu Y and Blankenship RE (1995) Quenching of chlorophyll excited states by carotenoids. In: *Photosynthesis: From Light to Biosphere*, Mathis P, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **4**: 3-7. (CP)
112. Zhu Y, Ramakrishna BL, van Noort PI and Blankenship RE (1995) Microscopic and spectroscopic studies of untreated and hexanol-treated chlorosomes from *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **1232**: 197-207. (R).
111. Chiou HC and Blankenship RE (1995) Temperature-dependent studies of charge recombination in *Heliobacillus mobilis*. In: *Photosynthesis: From Light to Biosphere*, P. Mathis, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **2**: 167-170. (CP)
110. Savikhin S, van Noort PI, Zhu Y, Blankenship RE and Struve WS (1995) Femtosecond energy transfer kinetics in intact chlorosomes and Bchl c aggregates from green photosynthetic bacteria. In: *Photosynthesis: From Light to Biosphere*, P. Mathis, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **1**: 279-282. (CP)
109. Blankenship RE, Madigan MT and Bauer CE, Eds., (1995) *Anoxygenic Photosynthetic Bacteria*, 1331 pps, Kluwer Academic Publishing, Dordrecht, The Netherlands. (B)
108. Savikhin S, van Noort PI, Blankenship RE and Struve W (1995) Femtosecond probe of structural analogies between chlorosomes and bacteriochlorophyll c aggregates. *Biophysical Journal* **69**: 1100-1104 (R)
107. Savikhin S, van Noort PI, Lin S, Blankenship RE and Struve W (1995) Ultrafast energy transfer in light-harvesting chlorosomes from the green sulfur bacterium *Chlorobium tepidum*. *Chemical Physics* **194**: 245-258. (R)
106. Lee WY, Brune DC, LoBrutto R and Blankenship RE (1995) Isolation, characterization and primary structure of rubredoxin from the photosynthetic bacterium *Heliobacillus mobilis*. *Archives of Biochemistry and Biophysics* **318**: 80-88. (R)
105. Blankenship RE, Miller M and Olson JM (1995) Antenna complexes from green photosynthetic bacteria, Chapter in: *Anoxygenic Photosynthetic Bacteria*, Blankenship RE, Madigan MT and Bauer CE, Eds., pp 399-435, Kluwer Academic Publishing, Dordrecht. (IR)

104. Savikhin S, Zhu Y, Lin S, Blankenship RE and Struve W (1994) Femtosecond spectroscopy of chlorosome antennas from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Physical Chemistry* **98**: 10322-10334. (R)
103. Lin S, Kleinherenbrink FAM, Chiou HC and Blankenship RE (1994) Spectral heterogeneity and time-resolved spectroscopy of excitation energy transfer in membranes of *Heliobacillus mobilis* at low temperatures. *Biophysical Journal* **67**: 2479-2489. (R)
102. Blankenship RE (1994) Protein structure, electron transfer and evolution of prokaryotic photosynthetic reaction centers. *Antonie van Leeuwenhoek* **65**: 311-329. (IR)
101. Blankenship RE (1994) Photosynthesis, In: *Encyclopedia of Inorganic Chemistry*, King BR, Ed. (J. Wiley, New York) **6**: 3282-3304. (IR)
100. Kleinherenbrink FAM, Chiou HC, LoBrutto R and Blankenship RE (1994) Spectroscopic evidence for the presence of an iron-sulfur center similar to Fx of Photosystem I in *Heliobacillus mobilis*. *Photosynthesis Research* **41**: 115-123. (R)
99. Zhou W, LoBrutto R, Lin S and Blankenship RE (1994) Redox effects on the bacteriochlorophyll *a*-containing Fenna-Matthews-Olson protein from *Chlorobium tepidum*. *Photosynthesis Research* **41**: 89-96. (R)
98. Hastings G, Kleinherenbrink FAM, Lin S, McHugh T and Blankenship RE (1994) Observation of the reduction and re-oxidation of the primary electron acceptor in Photosystem I. *Biochemistry* **33**: 3193-3200. (R)
97. Hastings G, Kleinherenbrink FAM, Lin S and Blankenship RE (1994) Time-resolved fluorescence and absorption spectroscopy of Photosystem I. *Biochemistry* **33**: 3185-3192. (R)
96. Kleinherenbrink FAM, Hastings G, Wittmershaus BP and Blankenship RE (1994) Delayed fluorescence from Fe-S Type photosynthetic reaction centers at low redox potential. *Biochemistry* **33**: 3096-3105. (R)
95. Lin S, Chiou HC, Kleinherenbrink FAM and Blankenship RE (1994) Time-resolved spectroscopy of energy and electron transfer processes in the photosynthetic bacterium *Heliobacillus mobilis*. *Biophysical Journal* **66**: 437-445. (R)
94. Savikhin S, Zhou W, Blankenship RE and Struve WS (1994) Femtosecond energy transfer and spectral equilibration in bacteriochlorophyll *a*-protein antenna trimers from the green bacterium *Chlorobium tepidum*. *Biophysical Journal* **66**: 110-114. (R)
93. Krasnovsky AA, Jr., Lopez J, Cheng P, Blankenship RE, Moore TA and Gust D (1994) Generation and quenching of singlet molecular oxygen by aggregated molecules of bacteriochlorophyll *d* in model systems and chlorosomes. *Photosynthesis Research* **40**: 191-198. (R)



92. Cheng P, Liddell P, Ma SXC and Blankenship RE (1993) Properties of Zn and Mg methyl bacteriopheophorbide *d* and their aggregates. *Photochemistry and Photobiology* **58**: 290-295. (R)
91. Causgrove TP, Cheng P, Brune DC and Blankenship RE (1993) Optical spectroscopy of a highly fluorescent aggregate of bacteriochlorophyll *c*. *Journal of Physical Chemistry* **97**: 5519-5524. (R)
90. Liebl U, Mockensturm-Wilson M, Trost JT, Brune DC, Blankenship RE and Vermaas WFJ (1993) Single core polypeptide in the reaction center of the photosynthetic bacterium *Heliobacillus mobilis*: Structural implications and relations to other photosystems. *Proceedings of the National Academy of Sciences USA* **90**: 7124-7128. (R)
89. Godik VI, Blankenship RE, Causgrove TP and Woodbury N (1993) Time-resolved tryptophan fluorescence in photosynthetic reaction centers from *Rhodobacter sphaeroides*. *FEBS Letters* **321**: 229-232. (R)
88. Kleinherenbrink FAM, Cheng P, Amesz J and Blankenship RE (1993) Lifetimes of bacteriochlorophyll fluorescence in *Rhodopseudomonas viridis* and *Heliobacterium chlorum* at low temperatures. *Photochemistry and Photobiology* **57**: 13-18. (R)
87. Blankenship RE, Cheng P, Causgrove TP, Brune DC, Wang SHH, Choh JU and Wang J (1993) Redox regulation of energy transfer efficiency in antennas of green photosynthetic bacteria. *Photochemistry and Photobiology* **57**: 103-107. (R)
86. Krasnovsky AA, Jr., Cheng P, Blankenship RE, Moore TA and Gust D (1993) The photophysics of monomeric bacteriochlorophylls *c* and *d* and their derivatives: properties of the triplet state and singlet oxygen photogeneration and quenching. *Photochemistry and Photobiology* **57**: 324-330. (R)
85. Cheng P and Blankenship RE (1992) Low temperature studies on green photosynthetic bacterial chlorosomes. In: *Research in Photosynthesis*, N. Murata, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 121-124. (CP)
84. Liebl U, Mockensturm-Wilson M, Trost JT, Brune DC, Blankenship RE and Vermaas WFJ (1992) The reaction center core polypeptide in the photosynthetic bacterium *Heliobacillus mobilis*, In: *Research in Photosynthesis*, Murata N, ed. (Kluwer Acad. Pub., Dordrecht) **2**: 595-598. (CP)
83. Dracheva S, Williams JC and Blankenship RE (1992) Cloning and sequencing of the FMO protein gene from *Chlorobium tepidum*. In: *Research in Photosynthesis*, N. Murata, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 53-56. (CP)

82. Lin S, Chiou HC and Blankenship RE (1992) Energy transfer and photochemistry in *Heliobacillus mobilis*. In: *Research in Photosynthesis*, Murata N, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 417-420. (CP)
81. Blankenship RE (1992) Origin and early evolution of photosynthesis. *Photosynthesis Research* **33**: 91-111. (R, IR)
80. Trost JT, Brune DC and Blankenship RE (1992) Protein sequences and redox titrations indicate that the electron acceptors in heliobacteria are similar to Photosystem I. *Photosynthesis Research* **32**: 11-22. (R)
79. Causgrove TP, Brune DC and Blankenship RE (1992) FoÅnrster energy transfer in chlorosomes of green photosynthetic bacteria. *Journal of Photochemistry and Photobiology B* **15**: 171-179. (R)
78. McManus JD, Brune DC, Han J, Sanders-Loehr J, Meyer TE, Cusanovich MA, Tollin G and Blankenship RE (1992) Isolation, characterization and amino acid sequences of auracyanins, blue copper proteins from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Biological Chemistry* **267**: 6531-6541. (R)
77. Alden RG, Lin SH and Blankenship RE (1992) Theory of spectroscopy and energy transfer of oligomeric pigments in chlorosome antennas of green photosynthetic bacteria. *Journal of Luminescence* **51**: 51-66. (R)
76. Dracheva S, Williams JC, Van Driessche G, Van Beeumen JJ and Blankenship RE (1991) The primary structure of cytochrome *c*-554 from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochemistry* **30**: 11451-11458. (R)
75. Meyer TE, Tollin G, Causgrove TP, Cheng P and Blankenship RE (1991) Picosecond decay kinetics and quantum yield of fluorescence of the photoactive yellow protein from the halophilic purple phototrophic bacterium, *Ectothiorhodospira halophila*. *Biophysical Journal* **59**: 988-991. (R)
74. Becker M, Nagarajan V, Middendorf D, Parson WW, Martin JE and Blankenship RE (1991) Temperature dependence of the initial electron-transfer kinetics in photosynthetic reaction centers of *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **1057**: 299-312. (R)
73. Blankenship RE (1991) Photosynthesis: The Light Reactions. Chapter in: *Plant Physiology*, Taiz L and Zeiger E, eds. (Benjamin Cummings Co.), 179-218. (R, IR)
72. Causgrove TP, Brune DC, Wang J, Wittmershaus BP and Blankenship RE (1990) Energy transfer kinetics in whole cells and isolated chlorosomes of green photosynthetic bacteria. *Photosynthesis Research* **26**: 39-48. (R)

71. Trost JT and Blankenship RE (1990) Isolation of a reaction center particle and a small *c*-type cytochrome from *Heliobacillus mobilis*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed. (Kluwer Acad. Pub., Dordrecht) **2**: 703-706. (CP)
70. Olson JM, Pedersen JP, Causgrove TP, Brune DC and Blankenship RE (1990) Bacteriochlorophyll *c* monomers, dimers and higher aggregates in dichloromethane and carbon tetrachloride. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 37-40. (CP)
69. Bittersmann E, Blankenship RE and Woodbury N (1990) Picosecond fluorescence studies of *Rhodospseudomonas viridis*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 169-172. (CP)
68. Becker M, Middendorf D, Nagarajan V, Parson WW and Blankenship RE (1990) Picosecond absorption studies on photosynthetic reaction centers of *Chloroflexus aurantiacus*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub. Dordrecht **1**: 121-124. (CP)
67. Blankenship RE, Wang J, Causgrove TP and Brune DC (1990) Efficiency and kinetics of energy transfer in chlorosome antennas from green photosynthetic bacteria. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 17-24. (CP, IR)
66. Freeman JC and Blankenship RE (1990) Isolation and characterization of the membrane-bound cytochrome *c*-554 from the thermophilic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Photosynthesis Research* **23**: 29-38. (R)
65. Causgrove TP, Brune DC, Blankenship RE and Olson JM (1990) Fluorescence lifetimes of dimers and higher oligomers of bacteriochlorophyll *c* from *Chlorobium limicola*. *Photosynthesis Research* **25**: 1-10. (R)
64. Wang J, Brune DC and Blankenship RE (1990) Effects of oxidants and reductants on energy transfer efficiencies in green photosynthetic bacteria. *Biochimica et Biophysica Acta* **1015**: 457-463. (R)
63. Mimuro M, Nozawa T, Tamai T, Shimada K, Yamazaki I, Lin S, Knox RS, Wittmershaus BP, Brune DC and Blankenship RE (1989) Excitation energy flow in chlorosome antennas of green photosynthetic bacteria. *Journal of Physical Chemistry* **93**: 7503-7509. (R)
62. Trost JT and Blankenship RE (1989) Isolation of a photoactive photosynthetic reaction center-core antenna complex from *Heliobacillus mobilis*. *Biochemistry* **28**: 9898-9904. (R)
61. Meyer TE, Tollin, Cusanovich MA, Freeman JC and Blankenship RE (1989) *In vitro* kinetics of reduction of cytochrome *c*-554 isolated from the reaction center of the green phototrophic bacterium, *Chloroflexus aurantiacus*. *Archives of Biochemistry and Biophysics* **272**: 254-261. (R)

60. Blankenship RE, Brune DC and Wittmershaus BP (1988) Chlorosome antennas in green photosynthetic bacteria. In: *Light-Energy Transduction in Photosynthesis. Higher Plants and Bacterial Models*, Stevens SE, Jr. and Bryant DA, eds., American Society of Plant Physiologists, Rockville, MD, 32-46. (CP, IR)
59. Trost JT, McManus JD, Freeman JC, Ramakrishna BL and Blankenship RE (1988) Auracyanin: A blue copper protein from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochemistry* **27**: 7858-7863. (R)
58. Blankenship RE, Trost JT and Mancino LJ (1988) Properties of reaction centers from the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *The Photosynthetic Bacterial Reaction Center: Structure and Dynamics*, Breton J and Vermeglio A, eds., Plenum Press, New York, 119-127. (CP)
57. Brune DC, King GH and Blankenship RE (1988) Intermolecular interactions between bacteriochlorophyll *c* in *in vitro* oligomers and in chlorosomes. In: *Photosynthetic Light-Harvesting Systems*, Scheer H and Schneider S, eds., Walter de Gruyter, Berlin, 141-151. (CP)
56. Wittmershaus BP, Brune DC and Blankenship RE (1988) Energy transfer in *Chloroflexus aurantiacus*: Effects of temperature and anaerobic conditions. In: *Photosynthetic Light-Harvesting Systems*, Scheer H and Schneider S, eds., Walter de Gruyter, Berlin, 543-554. (CP)
55. Brune DC, Blankenship RE and Seely GR (1988) Fluorescence quantum yields and lifetimes for bacteriochlorophyll *c*. *Photochemistry and Photobiology* **47**: 759-763. (R)
54. Blankenship RE, Brune DC, Freeman JM, King GH, McManus JD, Nozawa T, Trost JT and Wittmershaus BP (1988) Energy trapping and electron transfer in *Chloroflexus aurantiacus*. In: *Green Photosynthetic Bacteria*, Olson JM, Ormerod JG, Amesz J, Stackebrandt E and Trüper HG, eds., Plenum Press, New York, 57-68. (CP)
53. Nozawa T, Trost JT, Fukada T, Hatano M, McManus JD and Blankenship RE (1987) Properties of the reaction center of the thermophilic purple photosynthetic bacterium *Chromatium tepidum*. *Biochimica et Biophysica Acta* **894**: 468-476. (R)
52. Brune DC, King GH, Infosino AI, Steiner T, Thewalt MLW and Blankenship RE (1987) Antenna organization in green photosynthetic bacteria. II. Excitation transfer in detached and membrane-bound chlorosomes from *Chloroflexus aurantiacus*. *Biochemistry* **26**: 8652-8658. (R)
51. Brune DC, Nozawa T and Blankenship RE (1987) Antenna organization in green photosynthetic bacteria. I. Oligomeric bacteriochlorophyll *c* as a model for the 740 nm absorbing bacteriochlorophyll *c* in *Chloroflexus aurantiacus* chlorosomes. *Biochemistry* **26**: 8644-8652. (R)

50. Wynn RM, Redlinger TE, Foster JM, Blankenship RE, Fuller RC, Shaw RW and Knaff DB (1987) Electron-transport chains of phototrophically and chemotrophically grown *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **891**: 216-226. (R)
49. Redlinger TE, Foster JM, Wynn RM, Knaff DB, Blankenship RE and Fuller RC (1987) Oxygen regulation of cytochrome *c*-554 synthesis in *Chloroflexus*. In: *Progress in Photosynthesis Research*, Biggins J, ed., Nijhoff, Dordrecht, **4**: 745-748. (CP)
48. Brune DC and Blankenship RE (1987) Light absorption and fluorescence of Bchl *c* in chlorosomes from *Chloroflexus aurantiacus* and an *in vitro* model. In: *Progress in Photosynthesis Research*, Biggins J, ed., Nijhoff M, Dordrecht, **1**: 419-422. (CP)
47. Becker M, Middendorf D, Woodbury NW, Parson WW and Blankenship RE (1986) Picosecond electron transfer and stimulated emission in reaction centers of *Rhodobacter sphaeroides* and *Chloroflexus aurantiacus*. In: *Ultrafast Phenomena*, Fleming GR and Siegman AE, eds., Springer-Verlag, 374-378. (CP)
46. Foster JM, Redlinger TE, Blankenship RE and Fuller RC (1986) Oxygen regulation of the development of the photosynthetic membrane system in *Chloroflexus*. *Journal of Bacteriology* **167**: 655-659. (R)
45. Kirmaier C, Blankenship RE and Holten D (1986) Formation and decay of radical pair state P<sup>+</sup>I<sup>-</sup> in *Chloroflexus aurantiacus* reaction centers. *Biochimica et Biophysica Acta* **850**: 275-285. (R)
44. Blankenship RE and Fuller RC (1986) Membrane topology and photochemistry of the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *Photosynthesis III, Encyclopedia of Plant Physiology New Series*, Staehelin LA and Arntzen CJ, eds. (Heidelberg: Springer-Verlag) **19**: 390-399. (IR)
43. Blankenship RE (1986) Book Review of *Photosynthesis*: C. H. Foyer, (New York: John Wiley) (1984). *Photochemistry and Photobiology* **43**: 357. (BR)
42. Prince R, Gest H and Blankenship RE (1985) Thermodynamic properties of the photochemical reaction center of *Heliobacterium chlorum*. *Biochimica et Biophysica Acta* **810**: 377-384. (R)
41. Blankenship RE and Prince RC (1985) Excited state redox potentials and the Z scheme of photosynthesis. *Trends in Biochemical Sciences* **10**: 382-383. (R)
40. Blankenship RE (1985) Electron transport in green photosynthetic bacteria. *Photosynthesis Research* **6**: 317-335. (IR, R)
39. Fuller RC, Sprague SG, Gest H and Blankenship RE (1985) A unique photosynthetic reaction center from *Heliobacterium chlorum*. *FEBS Letters* **182**: 345-349. (R)

38. Blankenship RE (1984) Primary photochemistry in green photosynthetic bacteria. *Photochemistry and Photobiology* **40**: 801-806. (IR)
37. Blankenship RE (1984) Book Review of *Photosynthetic Systems*: Danks SM, Evans EH and Whittaker PA (Chichester: John Wiley) (1983) *Structure, Function and Assembly. Quarterly Review of Biology* **59**: 462-463. (BR)
36. Blankenship RE (1984) Book Review of *Light Reaction Path of Photosynthesis* Fong FK (Berlin: Springer-Verlag) (1982) *Photochemistry and Photobiology* **39**: 585. (BR)
35. Blankenship RE, Mancino LJ, Feick R, Fuller RC, Machnicki J, Frank HA, Kirmaier C and Holten D (1984) Primary photochemistry and pigment composition of reaction centers isolated from the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *Advances in Photosynthesis Research* C. Sybesma, ed., I: 203-206. (CP)
34. Fuller RC, Blankenship RE and Feick RG (1984) The molecular topography of the photochemical membrane system in the green bacterium *Chloroflexus*. In: *Advances in Photosynthesis Research* C. Sybesma, ed., III: 377-380. (CP)
33. Kirmaier C, Holten D, Mancino LJ and Blankenship RE (1984) Picosecond photodichroism studies on reaction centers from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **765**: 138-146. (R)
32. Mancino LJ, Dean DP and Blankenship RE (1984) Kinetics and thermodynamics of the  $P870^+Q_A^- \rightarrow P870^+Q_B^-$  reaction in isolated reaction centers from the photosynthetic bacterium *Rhodospseudomonas sphaeroides*. *Biochimica et Biophysica Acta* **764**: 46-54. (R)
31. Cho HM, Mancino LJ and Blankenship RE (1984) Light saturation curves and quantum yields in reaction centers from photosynthetic bacteria. *Biophysical Journal* **45**: 455-461. (R)
30. Natarajan LV, Ricker JE, Blankenship RE and Chang R (1984) Solvent influences on the singlet quenching of chlorophyll *a* by 2,5-dimethyl-p-benzoquinone. *Photochemistry and Photobiology* **39**: 301-306. (R)
29. Photosynthesis: Life Energy. On-camera participant and technical consultant for film produced by the National Geographic Society in association with Joseph Akin (1983). (MM)
28. Blankenship RE, Feick R, Bruce BD, Kirmaier C, Holten D and Fuller RC (1983) Primary photochemistry in the facultative green photosynthetic bacterium *Chloroflexus aurantiacus*. *Journal of Cellular Biochemistry* **22**: 251-266. (R, CP, IR)
27. Kirmaier C, Holten D, Feick R and Blankenship RE (1983) Picosecond measurements of the primary photochemical events in reaction centers isolated from the facultative green photosynthetic bacterium *Chloroflexus aurantiacus*: Comparison with the purple bacterium *Rhodospseudomonas sphaeroides*. *FEBS Letters* **158**: 73-78. (R)

26. Hale MB, Blankenship RE and Fuller RC (1983) Menaquinone is the sole quinone in the facultatively aerobic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **723**: 376-382. (R)
25. Natarajan LV, Stein FM, Blankenship RE and Chang R (1983) Linear dichroism and fluorescence polarization of diphenyl polyenes in stretched polyethylene films. *Chemical Physics Letters* **95**: 525-528. (R)
24. Natarajan LV, Robinson M and Blankenship RE (1983) Linear dichroism of cyanine dyes in stretched polyvinyl alcohol films: A Physical Chemistry Laboratory Experiment. *Journal of Chemical Education* **60**: 241-243. (R)
23. Natarajan LV and Blankenship RE (1983) Free energy dependence of the quenching of chlorophyll *a* fluorescence by substituted quinones. *Photochemistry and Photobiology* **37**: 329-336. (R)
22. Bruce BD, Fuller RC and Blankenship RE (1982) Primary photochemistry in the facultatively aerobic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Proceedings of the National Academy of Sciences USA* **79**: 6532-6536. (R)
21. Pocinki AG and Blankenship RE (1982) Kinetics of electron transfer in duroquinone reconstituted reaction centers from photosynthetic bacteria. *FEBS Letters* **147**: 115-119. (R)
20. Natarajan LV and Blankenship RE (1982) Linear dichroism of the 740 nm absorbing form of chlorophyll *a*. *Spectroscopy Letters* **15**: 527-532. (R)
19. Betti JA, Blankenship RE, Natarajan LV, Dickinson LC and Fuller RC (1982) Antenna organization and evidence for the function of a new antenna pigment species in the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochimica et Biophysica Acta* **680**: 194-201. (R)
18. Schenck CC, Blankenship RE and Parson WW (1982) Radical-pair decay kinetics, triplet yields and delayed fluorescence from bacterial reaction centers. *Biochimica et Biophysica Acta* **680**: 44-59. (R)
17. Bunker G, E. Stern EA, Blankenship RE and Parson WW (1982) An X-ray absorption study of the iron site in bacterial photosynthetic reaction centers. *Biophysical Journal* **37**: 539-551. (R)
16. Yocum CF, Yerkes CT, Blankenship RE, Sharp RR and Babcock GT (1981) Stoichiometry, inhibitor sensitivity and organization of manganese associated with photosynthetic oxygen evolution. *Proceedings of the National Academy of Sciences USA* **78**: 7507-7511. (R)
15. Blankenship RE (1981) Chemically induced magnetic polarization in photosynthetic systems. *Accounts of Chemical Research* **14**: 163-170. (R, IR)

14. Blankenship RE and Parson WW (1979) The involvement of iron and ubiquinone in electron transfer reactions mediated by reaction centers from photosynthetic bacteria. *Biochimica et Biophysica Acta* **545**: 429-444. (R)
13. Blankenship RE and Parson WW (1979) Kinetics and thermodynamics of electron transfer in bacterial reaction centers. In: *Topics in Photosynthesis: Photosynthesis in Relation to Model Systems*, J. Barber, ed. (Amsterdam: Elsevier) **3**: 71-114. (IR)
12. Parson WW, Schenck CC, Blankenship RE, Holten D, Windsor MW and Shank CV (1978) Kinetics of photochemical electron transfer reactions *in vivo* and *in vitro*. In: *Frontiers of Biological Energetics: Electrons to Tissues*. PL Dutton, JS Leigh, A Scarpa, Eds. Academic Press, **1**: 37-44. (CP)
11. Blankenship RE and Parson WW (1978) The photochemical electron transfer reactions of photosynthetic bacteria and plants. *Annual Review of Biochemistry* **47**: 635-653. (IR)
10. Dismukes C, McGuire A, Blankenship RE and Sauer K (1978) Electron spin polarization in photosynthesis and the mechanism of the electron transfer in Photosystem I: Experimental observations. *Biophysical Journal* **21**: 239-256. Correction **21**: 521 (1978). (R)
9. Blankenship RE, Schaafsma TJ and Parson WW (1977) Magnetic field effects on radical pair intermediates in bacterial photosynthesis. *Biochimica et Biophysica Acta* **461**: 297-305. (R)
8. Blankenship RE, McGuire A and Sauer K (1977) Rise time of EPR signal  $II_{vf}$  in chloroplast Photosystem II. *Biochimica et Biophysica Acta* **459**: 617-619. (R)
7. Smith GE, Blankenship RE and Klein MP (1977) Conversion of an E-3 ESR spectrometer to 1-MHz field modulation. *Review of Scientific Instruments* **48**: 282-286. (R)
6. Babcock GT, Blankenship RE and Sauer K (1976) Reaction kinetics for positive charge accumulation on the water side of chloroplast Photosystem II. *FEBS Letters* **61**: 286- 289. (R)
5. Warden JT, Blankenship RE and Sauer K (1976) A flash photolysis ESR study of Photosystem II signal  $II_{vf}$ , the physiological donor to P680+. *Biochimica et Biophysica Acta* **423**: 462-478. (R)
4. Blankenship RE, McGuire A and Sauer K (1975) Chemically induced dynamic electron polarization in chloroplasts at room temperature: evidence for triplet state participation in photosynthesis. *Proceedings of the National Academy of Sciences USA* **72**: 4943-4947. (R)
3. Blankenship RE, Babcock GT, Warden JT and Sauer K (1975) Observation of a new EPR transient in chloroplasts that may reflect the electron donor to Photosystem II at room temperature. *FEBS Letters* **51**: 287-293. (R)
2. Blankenship RE, Babcock GT and Sauer K (1975) Kinetic study of oxygen evolution parameters in tris-washed, reactivated chloroplasts. *Biochimica et Biophysica Acta* **387**: 165-175. (R)



1. Blankenship RE and Sauer K (1974) Manganese in photosynthetic oxygen evolution. Electron paramagnetic resonance study of the environment of Mn in tris-washed chloroplasts. *Biochimica et Biophysica Acta* **357**: 252-266. (R)

**B = Book; BR = Book Review; CP = Conference Proceedings; IR = Invited Review; R = Refereed; MM = Multimedia**