HELMHOLTZ
Centre for Environmental Research

Publications

Helmholtz Centre for Environmental Research – UFZ

Preface

This list includes all publications of the year 2022 which were authored, co-authored or edited by staff members of the Helmholtz Centre for Environmental Research - UFZ.

As of 1 January 2021, the Helmholtz Association has entered the fourth period of program-oriented funding (PoF IV). In PoF IV, the UFZ contributes to a single Helmholtz research program, "Changing Earth - Sustaining our Future", within the research field Earth and Environment. Thus, all UFZ publications are assigned to this program and its program topics.

The editorial deadline for this publication list was 20 January 2023.

In contrast to external authors, UFZ staff names are highlighted in **bold type** in all publications.

The concluding index lists all UFZ authors in alphabetical order with the sequential numbers of their publications.

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Publications in ISI/Scopus listed journals/series

1. Aallam, Y., Dhiba, D., El Rasafi, T., Lemriss, S., Haddioui, A., **Tarkka, M.,** Hamdali, H. (2022):
Growth promotion and protection against root rot of sugar beet (*Beta vulgaris* L.) by two rock phosphate and potassium solubilizing *Streptomyces* spp. under greenhouse conditions
Plant Soil **472** (1-2), 407 - 420

2. **Abdollahi, M.,** Al Sbei, S., Rosenbaum, M.A., **Harnisch, F.** (2022):
The oxygen dilemma: The challenge of the anode reaction for microbial electrosynthesis from CO_2
Front. Microbiol. **13** , art. 947550

3. Abdussalam, W., Mertel, A., Fan, K., **Schüler, L.,** Schlechte-Wełnicz, W., **Calabrese, J.M.** (2022):
A scalable pipeline for COVID-19: the case study of Germany, Czechia and Poland
CEUR Workshop Proceedings **3306** , 64 - 75

4. Abrahão, A., Marhan, S., Boeddinghaus, R.S., **Nawaz, A., Wubet, T.,** Hölzel, N., Klaus, V.H., Kleinebecker, T., Freitag, M., Hamer, U., Oliveira, R.S., Lambers, H., Kandeler, E. (2022):
Microbial drivers of plant richness and productivity in a grassland restoration experiment along a gradient of land-use intensity
New Phytol. **236** (5), 1936 - 1950

5. Abramov, S.M., He, J., Wimmer, D., **Muehe, E.M.,** Helle, T., Thorwarth, H., Kappler, A. (2022):
Thiourea leaching of gold from processed municipal solid waste incineration residues
J. Mater. Cycles Waste Manag. **24** (6), 2243 - 2254

6. **Ahmadi, P.,** Aghajanzadeh, M., Asaadian, H., Khadivi, A., Kord, S. (2022):
Ion-mediated desorption of asphaltene molecules from carbonate and sandstone structures
Mater. Res. Express **9** (6), art. 065101

7. **Ahmadi, P.,** Elagami, H., **Dichgans, F., Schmidt, C.,** Gilfedder, B.S., Frei, S., Peiffer, S., **Fleckenstein, J.H.** (2022):
Systematic evaluation of physical parameters affecting the terminal cettling velocity of microplastic particles in lakes using CFD
Front. Environ. Sci. **10** , art. 875220

8. Akmatov, M.K., Holstiege, J., Dammertz, J., Heuer, J., Kohring, C., Lotto-Batista, M., **Boeing, F.,** Ghozzi, S., Castell, S., Bätzing, J. (2022): Epidemiology of Lyme borreliosis based on outpatient claims data of all people with statutory health insurance, Germany, 2019
Eurosurveillance **27** (32), art. 2101193

9. Al Naggar, Y., **Singavarapu, B.,** Paxton, R.J., **Wubet, T.** (2022): Bees under interactive stressors: the novel insecticides flupyradifurone and sulfoxaflor along with the fungicide azoxystrobin disrupt the gut microbiota of honey bees and increase opportunistic bacterial pathogens
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10. Alavipanah, S.K., Firozjaei, M.K., Sedighi, A., Fathololoumi, S., Naghadehi, S.Z., Salehi, S., Naghdizadegan, M., Gomeh, Z., Arsanjani, J.J., Makki, M., Qureshi, S., Weng, Q., **Haase, D.,** Pradhan, B., Biswas, A., Atkinson, P.M. (2022): The shadow effect on surface biophysical variables derived from remote sensing: A review
Land **11** (11), art. 2025

11. Alexandridis, N., Marion, G., Chaplin-Kramer, R., Dainese, M., Ekroos, J., Grab, H., Jonsson, M., Karp, D.S., Meyer, C., O'Rourke, M.E., Pontarp, M., Poveda, K., **Seppelt, R.,** Smith, H.G., Walters, R.J., Clough, Y., Martin, E.A. (2022): Archetype models upscale understanding of natural pest control response to land-use change
Ecol. Appl. **32** (8), e2696

12. **Altendorf, D.,** Grünewald, H., **Liu, T.-L.,** Dehnert, J., **Trabitzsch, R., Weiß, H.** (2022): Decentralised ventilation efficiency for indoor radon reductions considering different environmental parameters
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13. Alzualde, A., Hsieh, J.-H., Ellis, L., Schiavone, V., Truong, L., Legradi, J., Rubbini, D., Woodland, C., **Klüver, N.,** Ryan, K., Behl, M., Terriente, J., Muriana, A., Tanguay, R., Sachana, M., Hill, B., Padilla, S., Shafer, T., Hessel, E. (2022): An inter-laboratory case study to harmonize zebrafish light-dark transition test to predict developmental neurotoxicity for the OECD guidance document
Int. J. Toxicol. **41** (1), 55 - 56

14. Amici, F., **Röder, S.,** Kiess, W., Borte, M., **Zenclussen, A.C.,** Widdig, A., **Herberth, G.** (2022): Maternal stress, child behavior and the promotive role of older siblings
BMC Public Health **22** , art. 863

15. Anderies, J.M., Cumming, G.S., Clements, H.S., Lade, S.J., **Seppelt, R.,** Chawla, S., **Müller, B.** (2022):
A framework for conceptualizing and modeling social-ecological systems for conservation research
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16. Andersson, E., **Haase, D.,** Kronenberg, J., Langemeyer, J., Mascarenhas, A., **Wolff, M.,** Elmqvist, T. (2022):
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17. **Andrzejak, M., Korell, L., Auge, H., Knight, T.M.** (2022):
Effects of climate change and pollen supplementation on the reproductive success of two grassland plant species
Ecol. Evol. **12** (1), e8501

18. Anguelovski, I., Connolly, J.J.T., Cole, H., Garcia-Lamarca, M., Triguero-Mas, M., Baró, F., Martin, N., Conesa, D., Shokry, G., **Pérez del Pulgar, C.,** Ramos, L.A., Matheney, A., Gallez, E., Oscilowicz, E., López Máñez, J., Sarzo, B., Beltrán, M.A., Martinez Minaya, J. (2022):
Green gentrification in European and North American cities
Nat. Commun. **13** , art. 3816

19. **Anlanger, C.,** Attermeyer, K., **Hille, S., Kamjunke, N.,** Koll, K., König, M., Schnauder, I., **Nogueira Tavares, C., Weitere, M., Brauns, M.** (2022):
Large wood in river restoration: a case study on the effects on hydromorphology, biodiversity, and ecosystem functioning
Int. Rev. Hydrobiol. **107** (1-2), 34 - 45

20. Aoyama, L., Shoemaker, L.G., Gilbert, B., Collinge, S.K., Faist, A.M., Shackelford, N., Temperton, V.M., Barabás, G., Larios, L., **Ladouceur, E.,** Godoy, O., Bowler, C., Hallett, L.M. (2022):
Application of modern coexistence theory to rare plant restoration provides early indication of restoration trajectories
Ecol. Appl. **32** (7), e2649

21. **Arandia-Gorostidi, N., Berthelot, H., Calabrese, F., Stryhanyuk, H.,** Klawonn, I., Iversen, M., Nahar, N., Grossart, H.-P., Ploug, H., **Musat, N.** (2022):
Efficient carbon and nitrogen transfer from marine diatom aggregates to colonizing bacterial groups
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22. Arp, A., **Gebauer, R.,** Lindenberger, T., Warnecke, M.-L. (2022):
Politically motivated adoptions in the German Democratic Republic. Definitions and profiles
Ann. Demogr. Hist. **142** (2), 81 - 108

23. Asaadian, H., **Ahmadi, P.,** Khormizi, M.Z., Mohammadi, S., Soulgani, B.S., Baghersaei, S., Mokhtari, B. (2022):
Prevention of acid-induced sludge formation using an environmentally–friendly bio-based nonionic surfactant
J. Pet. Sci. Eng. **218** , art. 111009

24. Łaszkiewicz, E., **Wolff, M.,** Andersson, E., Kronenberg, J., Barton, D.N., **Haase, D.,** Langemeyer, J., Baró, F., McPhearson, T. (2022):
Greenery in urban morphology: a comparative analysis of differences in urban green space accessibility for various urban structures across European cities
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25. **Baaken, M.C.** (2022):
Sustainability of agricultural practices in Germany: a literature review along multiple environmental domains
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26. Bachmann, M.E., Kulik, L., Gatiso, T., Nielsen, M.R., **Haase, D.,** Heurich, M., Buchadas, A., Bösch, L., Eirdosh, D., Freytag, A., Geldmann, J., Ghoddousi, A., Hicks, T.C., Ordaz-Németh, I., Qin, S., Sop, T., van Beeck Calkoen, S., Wesche, K., Kühl, H.S. (2022):
Analysis of differences and commonalities in wildlife hunting across the Africa-Europe South-North gradient
PLoS Biol. **20** (8), e3001707

27. Bachmann, M., Wensch-Dorendorf, M., Kuhnitzsch, C., **Kleinsteuber, S., Popp, D.,** Thierbach, A., Martens, S.D., Steinhöfel, O., Zeyner, A. (2022):
Changes in composition and diversity of epiphytic microorganisms on field pea seeds, partial crop peas, and whole crop peas during maturation and ensiling with or without lactic acid bacteria inoculant
Microbiol. Spectr. **10** (4), e00953-22

28. **Bahrami, B., Hildebrandt, A., Thober, S., Rebmann, C., Fischer, R., Samaniego, L., Rakovec, O., Kumar, R.** (2022):
Developing a parsimonious canopy model (PCM v1.0) to predict forest gross primary productivity and leaf area index of deciduous broad-leaved forest
Geosci. Model Dev. **15** (18), 6957 - 6984

29. **Balda, M., Mackenzie, K., Kopinke, F.-D., Georgi, A.** (2022):
Uniform and dispersible carbonaceous microspheres as quasi-liquid sorbent
Chemosphere **307, Part 4** , art. 136079

30. **Baleeiro, F.C.F., Kleinsteuber, S., Sträuber, H.** (2022):
Recirculation of H_2, CO_2, and ethylene improves carbon fixation and carboxylate yields in anaerobic fermentation
ACS Sustain. Chem. Eng. **10** (13), 4073 - 4081

31. Ballasus, H., Schneider, B., von Suchodoletz, H., Miera, J., **Werban, U.,** Fütterer, P., Werther, L., Ettel, P., Veit, U., Zielhofer, C. (2022):
Overbank silt-clay deposition and intensive Neolithic land use in a Central European catchment – Coupled or decoupled?
Sci. Total Environ. **806, Part 4** , art. 150858

32. Balugani, E., Sumfleth, B., Majer, S., Marazza, D., **Thrän, D.** (2022):
Bridging modeling and certification to evaluate low-ILUC-risk practices for biobased materials with a user-friendly tool
Sustainability **14** (4), art. 2030

33. Balvanera, P., Brauman, K.A., **Cord, A.F.,** Drakou, E.G., Geijzendorffer, I.R., Karp, D.S., Martín-López, B., Mwampamba, T.H., **Schröter, M.** (2022):
Essential ecosystem service variables for monitoring progress towards sustainability
Curr. Opin. Environ. Sustain. **54** , art. 101152

34. **Banitz, T.,** Hertz, T., Johansson, L.-G., Lindkvist, E., Martínez-Peña, R., Radosavljevic, S., Schlüter, M., Wennberg, K., Ylikoski, P.K., **Grimm, V.** (2022):
Visualization of causation in social-ecological systems
Ecol. Soc. **27** (1), art. 31

35. **Banitz, T.,** Schlüter, M., Lindkvist, E., Radosavljevic, S., Johansson, L.-G., Ylikoski, P., Martínez-Peña, R., **Grimm, V.** (2022):
Model-derived causal explanations are inherently constrained by hidden assumptions and context: The example of Baltic cod dynamics
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36. **Banzhaf, E.,** Anderson, S., Grandin, G., Hardiman, R., Jensen, A., Jones, L., **Knopp, J.,** Levin, G., Russel, D., Wu, W., Yang, J., Zandersen, M. (2022):
Urban-rural dependencies and opportunities to design nature-based solutions for resilience in Europe and China
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37. **Banzhaf, E.,** Bulley, H.N., Inkoom, J.N., **Elze, S.** (2022):
Mapping open data and big data to address climate resilience of urban informal settlements in Sub-Saharan Africa
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38. Bao, K., Bieber, L.-M., Kürpick, S., Radanielina, M.H., Padsala, R., **Thrän, D.,** Schröter, B. (2022):
Bottom-up assessment of local agriculture, forestry and urban waste potentials towards energy autonomy of isolated regions: Example of Réunion
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39. **Bao, K.,** Kalisch, L., Santhanavanich, T., **Thrän, D.,** Schröter, B. (2022):
A bottom-up GIS-based method for simulation of ground-mounted PV potentials at regional scale
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40. Baró, F., Camacho, D.A., **Perez del Pulgar, C.,** Ruiz-Mallén, I., García-Serrano, P. (2022):
Nature-based climate solutions in European schools: A pioneering co-designed strategy towards urban resilience
In: Ruiz-Mallén, I., March, H., Satorras, M. (eds.)
Urban resilience to the climate emergency
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Springer, Cham, p. 125 - 146

41. Barta, T., Sandtner, W., Wachlmayr, J., Hannesschlaeger, C., **Ebert, A.,** Speletz, A., Horner, A. (2022):
Modeling of SGLT1 in reconstituted systems reveals apparent ion-dependencies of glucose uptake and strengthens the notion of water-permeable apo states
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42. **Bartkowski, B., Massenberg, J.R., Lienhoop, N.** (2022):
Data on public preferences for soil-based ecosystem services in Germany
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43. **Bartkowski, B., Massenberg, J.R., Lienhoop, N.** (2022):
Investigating preferences for soil-based ecosystem services
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44. **Bartkowski, B., Schüßler, C., Müller, B.** (2022):
Typologies of European farmers: approaches, methods and research gaps
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45. Barton, C.M., Ames, D., Chen, M., **Frank, K.,** Jagers, H.R.A., Lee, A., Reis, S., Swantek, L. (2022):
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Environ. Modell. Softw. **156** , art. 105496

46. Barton, C.M., Lee, A., Janssen, M.A., van der Leeuw, S., Tucker, G.E., Porter, C., Greenberg, J., Swantek, L., **Frank, K.,** Chen, M., Jagers, H.R.A. (2022):
How to make models more useful
Proc. Natl. Acad. Sci. U.S.A. **119** (35), e2202112119

47. **Basso, S.,** Bakken, T.H. (2022):
Editorial: Reconciling small hydropower and ecosystem services in river basins
Front. Environ. Sci. **10** , art. 874065

48. **Batool, M., Sarrazin, F.J., Attinger, S.,** Basu, N.B., Van Meter, K., **Kumar, R.** (2022):
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49. **Bauer, M., Fink, B.,** Anderegg, U., **Röder, S., Zenclussen, A.C.** (2022):
IL17F expression as an early sign of oxidative stress-induced cytotoxicity/apoptosis
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50. Baveye, P.C., Balseiro-Romero, M., Bottinelli, N., Briones, M., Capowiez, Y., Garnier, P., Kravchenko, A., Otten, W., Pot, V., **Schlüter, S., Vogel, H.-J.** (2022):
Lessons from a landmark 1991 article on soil structure: distinct precedence of non-destructive assessment and benefits of fresh perspectives in soil research
Soil Res. **60** (4), 321 - 336

51. **Beckmann, M., Didenko, G.,** Bullock, J.M., Cord, A.F., **Paulus, A.,** Ziv, G., Václavík, T. (2022):
Archetypes of agri-environmental potential: a multi-scale typology for spatial stratification and upscaling in Europe
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52. **Ben Nsir, S., Jomaa, S.,** Yıldırım, Ü., **Zhou, X.,** D'Oria, M., **Rode, M.,** Khlifi, S. (2022):
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53. **Benra, F.,** Nahuelhual, L., **Felipe-Lucia, M.,** Jaramillo, A., Jullian, C., **Bonn, A.** (2022):
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54. **Berghöfer, U., Rode, J., Jax, K., Förster, J., Berghöfer, A., Wittmer, H.** (2022):
'Societal relationships with nature': A framework for understanding nature-related conflicts and multiple values
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55. Bermejo, R., Golden, N., Schrofner, E., **Knöller, K.,** Fenton, O., Serrão, E., Morrison, L. (2022):
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Mar. Pollut. Bull. **175** , art. 113318

56. Bertê, R., Teixeira, G.M., de Oliveira, J.P., Nicoletto, M.L.A., da Silva, D.V., de Godoy, G.G., Sipoli Sanches, D., de Resende, J.T.V., de Padua Pereira, U., **Nunes da Rocha, U.,** de Oliveira, A.G. (2022):
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57. **Bevacqua, E.,** Zappa, G., Lehner, F., **Zscheischler, J.** (2022):
Precipitation trends determine future occurrences of compound hot–dry events
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58. **Bezama, A., Hildebrandt, J., Thrän, D.** (2022):
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59. Bilyera, N., Hummel, C., Daudin, G., Santangeli, M., Zhang, X., Santner, J., **Lippold, E., Schlüter, S.,** Bertrand, I., Wenzel, W., Spielvogel, S., **Vetterlein, D.,** Razavi, B.S., Oburger, E. (2022):
Co-localised phosphorus mobilization processes in the rhizosphere of field-grown maize jointly contribute to plant nutrition
Soil Biol. Biochem. **165** , art. 108497

60. **Bin Hudari, M.S., Richnow, H., Vogt, C., Nijenhuis, I.** (2022):
Effect of temperature on microbial reductive dehalogenation of chlorinated ethenes: a review
FEMS Microbiol. Ecol. **98** (9), fiac081

61. **Bin Hudari, M.S., Vogt, C., Richnow, H.H.** (2022):
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Environ. Microbiol. **24** (1), 370 - 389

62. Binh, D.V., Kantoush, S.A., Ata, R., Tassi, P., **Nguyen, V.T.,** Lepesqueur, J., Abderrezzak, K.E.K., Bourban, S.E., Nguyen, Q.H., Phuong, D.N.L., Trung, L.V., Tran, D.A., Letrung, T., Sumi, T. (2022):
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63. Bird, D.N., **Banzhaf, E., Knopp, J., Wu, W.,** Jones, L. (2022):
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64. Birkel, C., **Dehaspe, J.,** Chavarría-Palma, A., Venegas-Cordero, N., Capell, R., Durán-Quesada, A.M. (2022):
Projected climate change impacts on tropical life zones in Costa Rica
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65. Bischoff, A.A., Kubitz, M., Wranik, C.M., Ballesteros-Redondo, L., **Fink, P.,** Palm, H.W. (2022):
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66. Blaha, M.E., Hasan, S., **Dusny, C.,** Belder, D. (2022):
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67. Blaurock, K., Garthen, P., **da Silva, M.P.,** Beudert, B., Gilfedder, B.S., **Fleckenstein, J.H.,** Peiffer, S., **Lechtenfeld, O.J.,** Hopp, L. (2022):
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Hydrol. Earth Syst. Sci. **26** (19), 5137 - 5161

70. **Bogdanowski, A., Banitz, T.,** Muhsal, L.K., Kost, C., **Frank, K.** (2022):
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71. Bogena, H.R., **Schrön, M.,** Jakobi, J., Ney, P., **Zacharias, S.,** Andreasen, M., Baatz, R., Boorman, D., Duygu, M.B., Eguibar-Galán, M.A., Fersch, B., Franke, T., Geris, J., González Sanchis, M., Kerr, Y., Korf, T., Mengistu, Z., Mialon, A., Nasta, P., Nitychoruk, J., Pisinaras, V., Rasche, D., Rosolem, R., Said, H., Schattan, P., Zreda, M., Achleitner, S., Albentosa-Hernández, E., Akyürek, Z., Blume, T., del Campo, A., Canone, D., Dimitrova-Petrova, K., Evans, J.G., Ferraris, S., Frances, F., Gisolo, D., Güntner, A., Herrmann, F., Iwema, J., Jensen, K.H., Kunstmann, H., Lidón, A., Looms, M.C., Oswald, S., Panagopoulos, A., Patil, A., Power, D., **Rebmann, C.,** Romano, N., Scheiffele, L., Seneviratne, S., Weltin, G., Vereecken, H. (2022):
COSMOS-Europe: a European network of cosmic-ray neutron soil moisture sensors
Earth Syst. Sci. Data **14** (3), 1125 - 1151

72. **Böhme, A., Moldrickx, J., Schüürmann, G.** (2022):
Amino reactivity of Schiff base forming aldehydes - Nonanimal assessment of their skin sensitization potency
Naunyn-Schmiedebergs Arch. Pharmacol. **395** (Suppl. 1), S31 - S31

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The transcriptional regulator RbcR controls ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO) genes in the cyanobacterium *Synechocystis* sp. PCC 6803
New Phytol. **235** (2), 432 - 445

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