SUPPLEMENTARY MATERIALS

Rapid Metabolome and Bioactivity Profiling of Fungi Associated with Phyllosphere and Rhizosphere of Baltic Seagrass *Zostera marina*

Lars-Erik Petersen[1], Michael Marner[1], Antje Labes[1] and Deniz Tasdemir[1,2,*]

[1] GEOMAR Centre for Marine Biotechnology (GEOMAR-Biotech), Research Unit Marine Natural Products Chemistry, GEOMAR Helmholtz Centre for Ocean Research Kiel, Am Kiel-Kanal 44, 24106 Kiel, Germany; lars-erik.petersen@uni-oldenburg.de; michael.marner@ime.frauenhofer.de; antje.labes@hs-flensburg.de

[2] Faculty of Mathematics and Natural Sciences, Kiel University, Christian-Albrechts-Platz 4, 24118 Kiel, Germany

* Correspondence: dtasdemir@geomar.de; Tel.: +49-431-600-4430; ORCID ID: 0000-0002-7841-6271

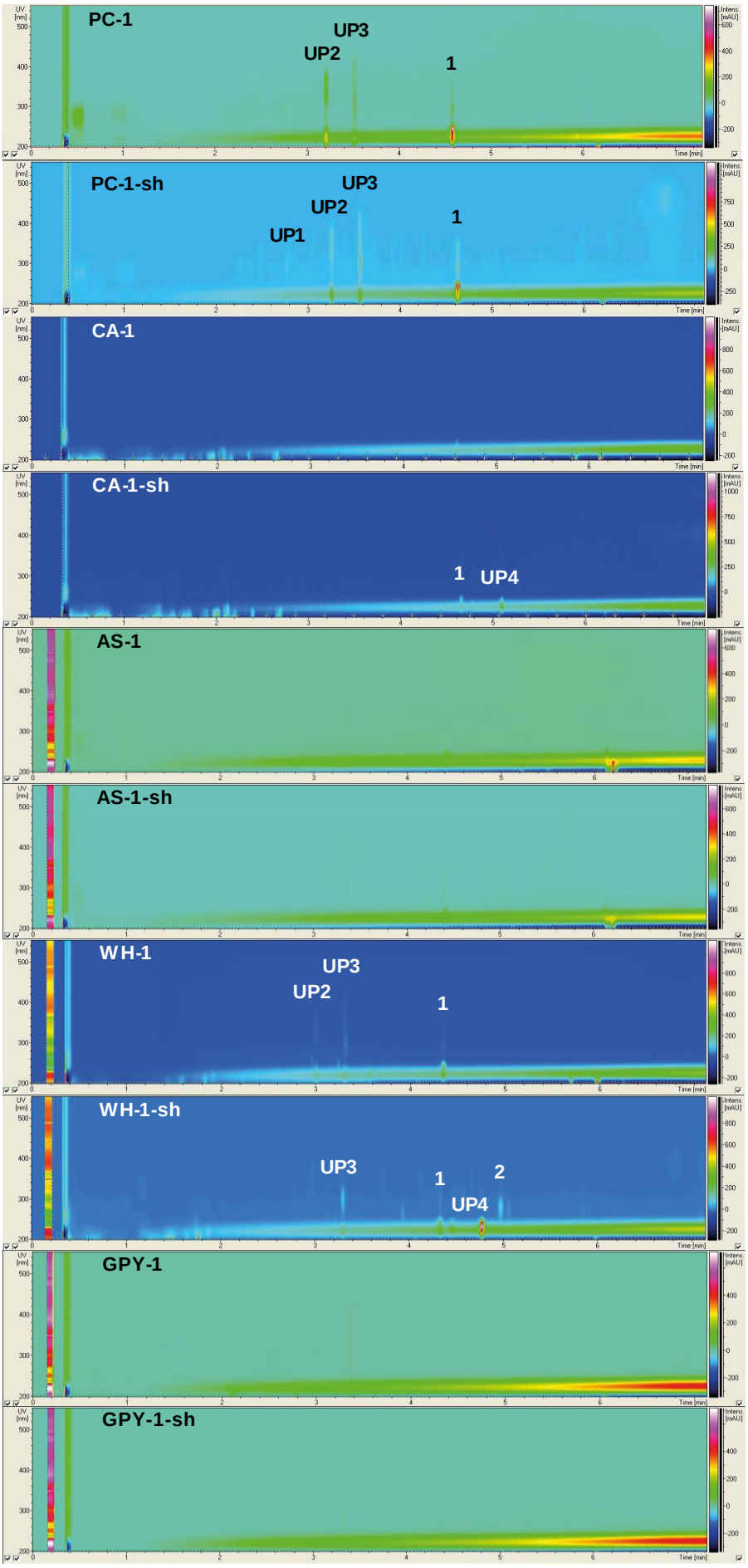


Figure S1. Metabolite profile of strain 1 (*Phoma macrostoma*) cultured under static and shaking (sh) conditions in five different media. Compounds are displayed as a function of UV absorption (nm) and intensity (mAU) vs. retention time (min). PC: potato-carrot medium, CA: casamino acids medium, AS: artificial seawater medium, WH: Wickerham's medium, GPY: glucose-peptone-yeast medium.

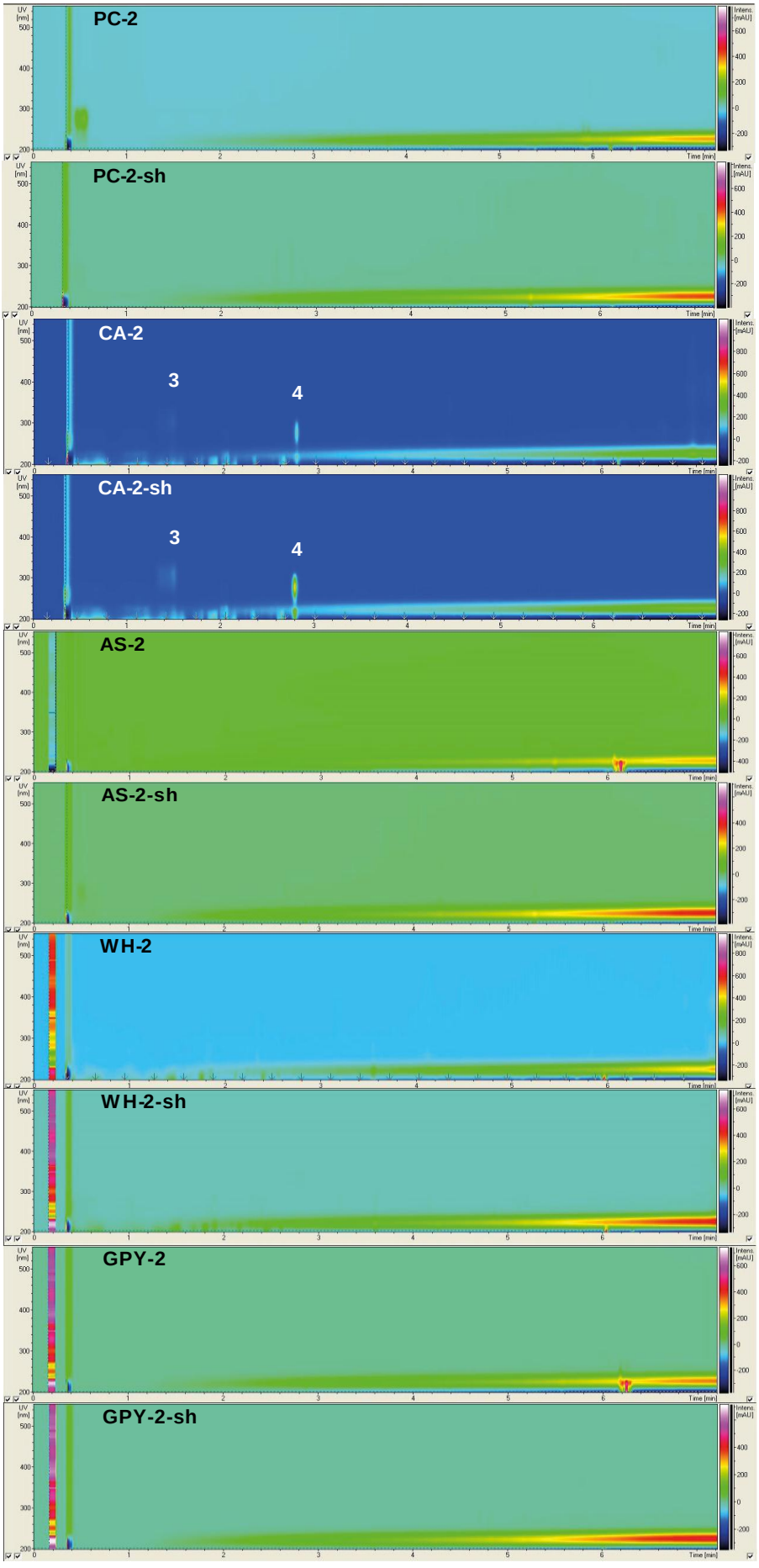


Figure S2. Metabolite profile of strain 2 (*Cladosporium langeronii*) cultured under static and shaking (sh) conditions in five different media.

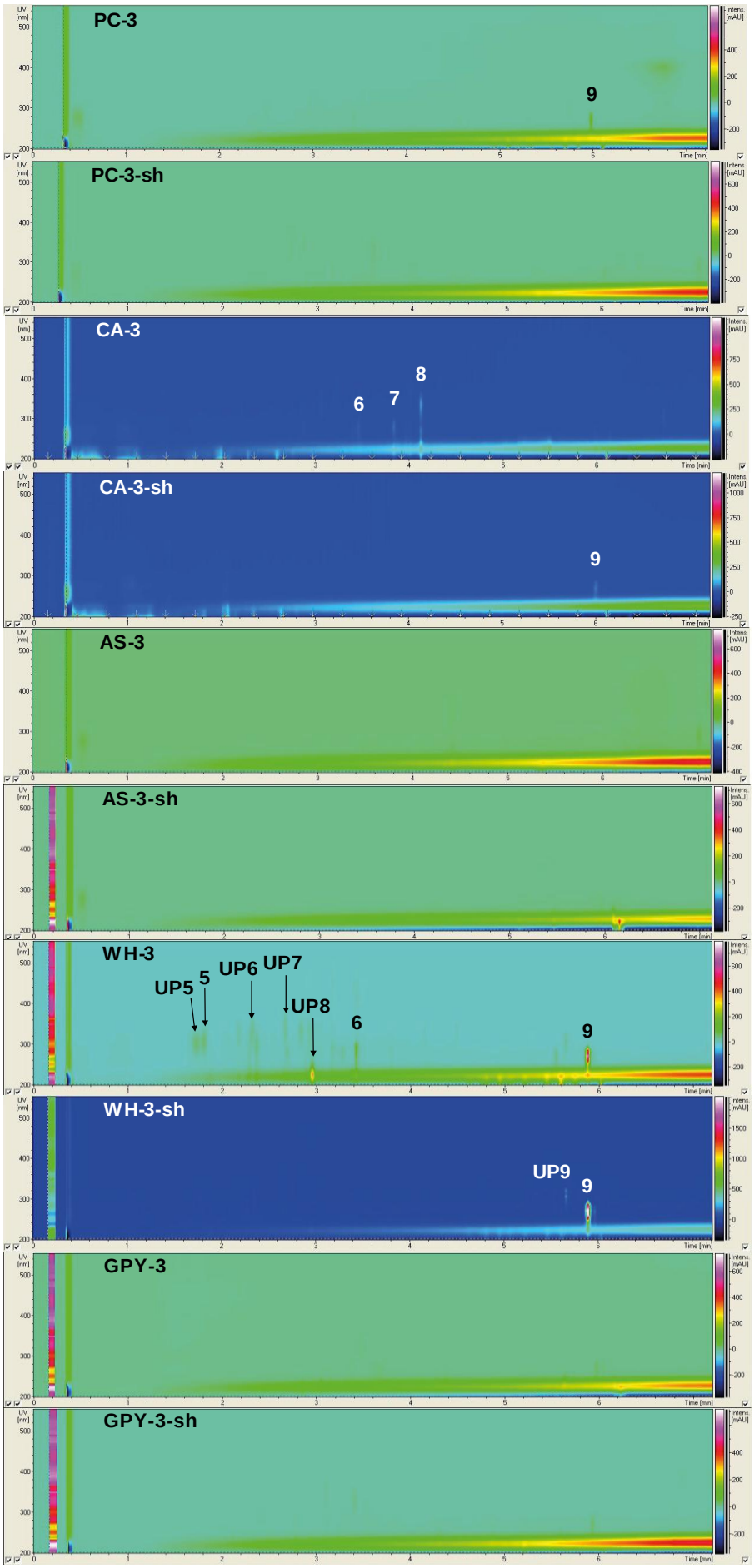


Figure S3. Metabolite profile of strain 3 (*Trichoderma harzianum*) cultured under static and shaking (sh) conditions in five different media.

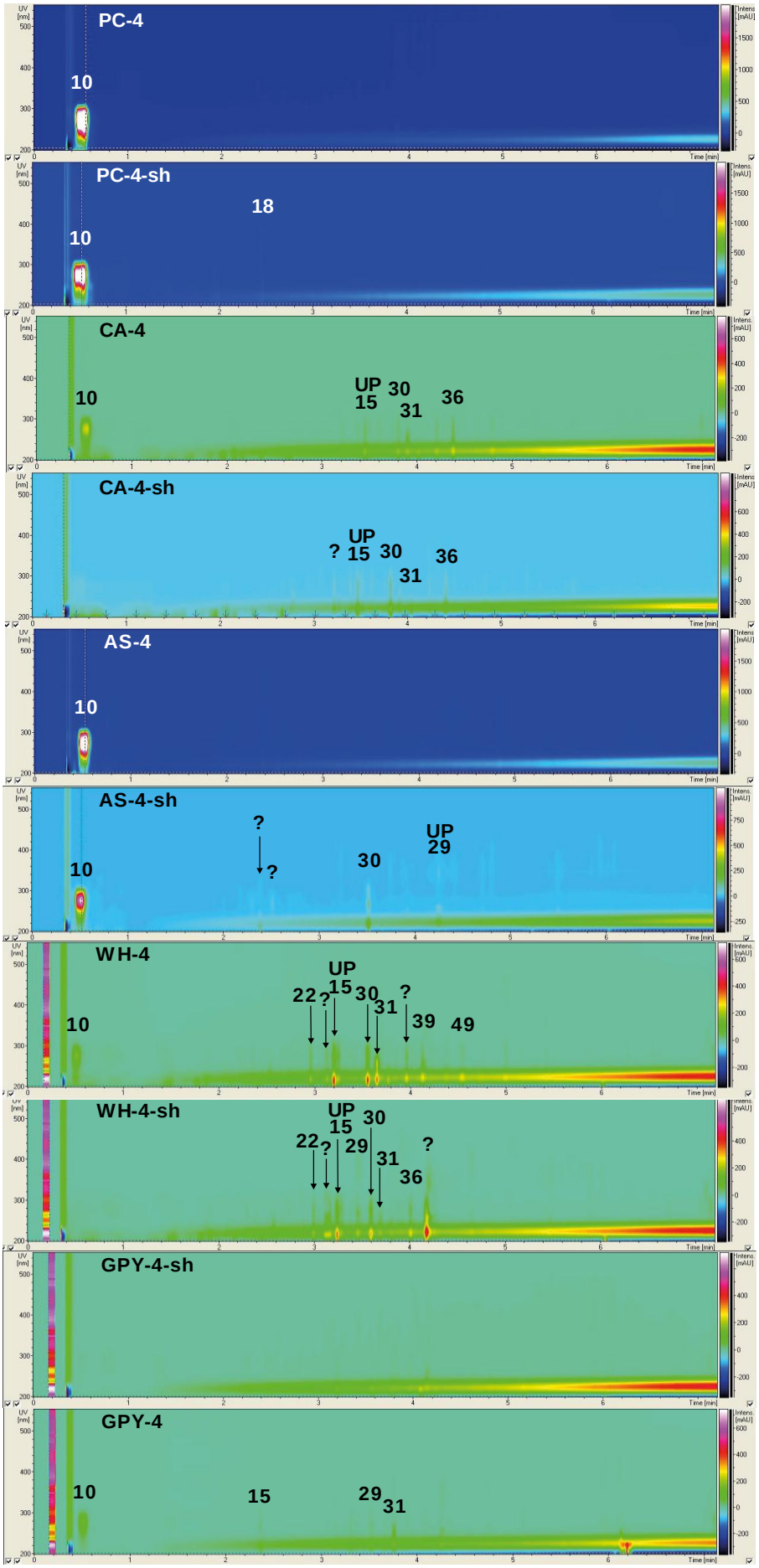


Figure S4. Metabolite profile of strain 4 (*Penicillium antarcticum*) cultured under static and shaking (sh) conditions in five different media.

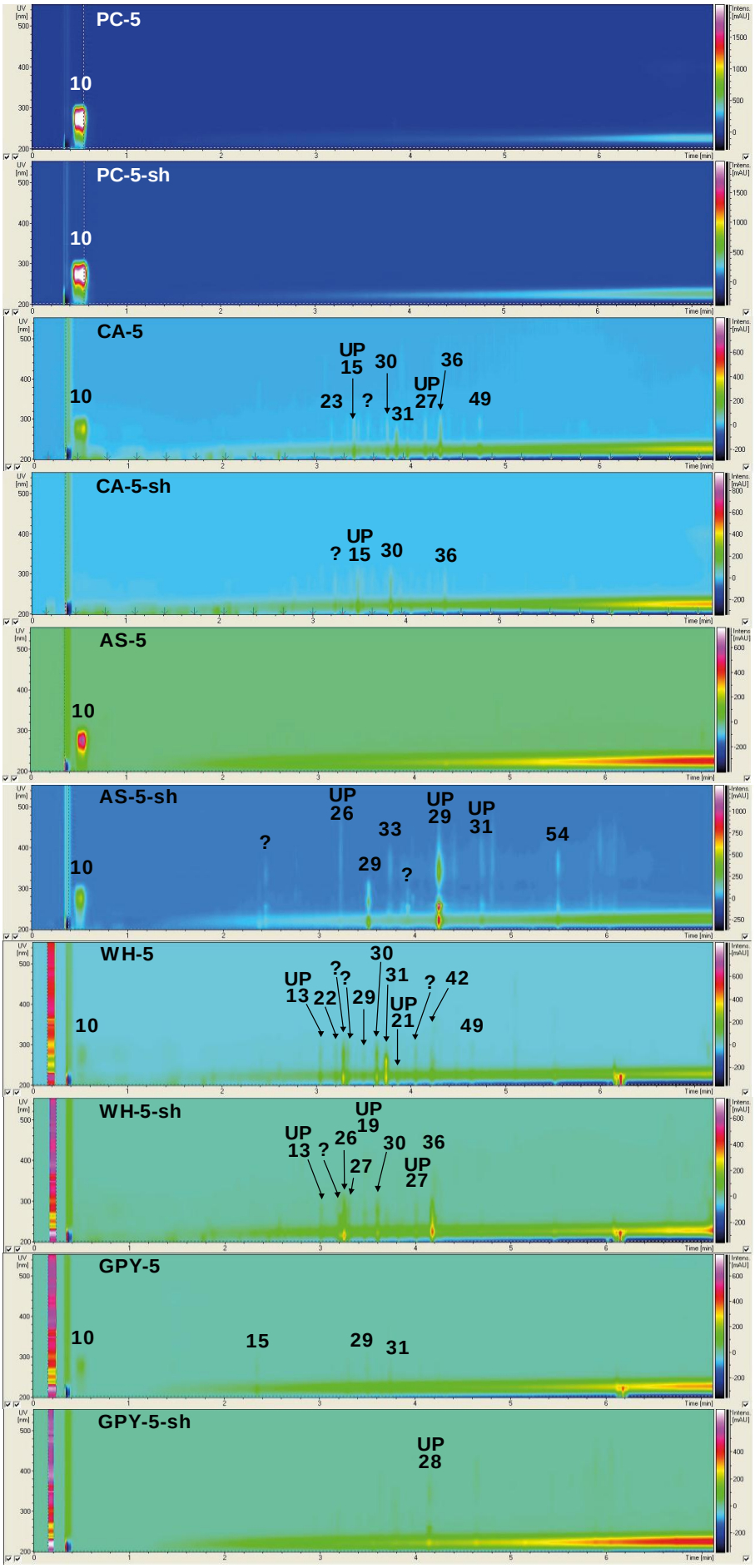


Figure S5. Metabolite profile of strain 5 (*P. antarcticum*) cultured under static and shaking (sh) conditions in five different media.

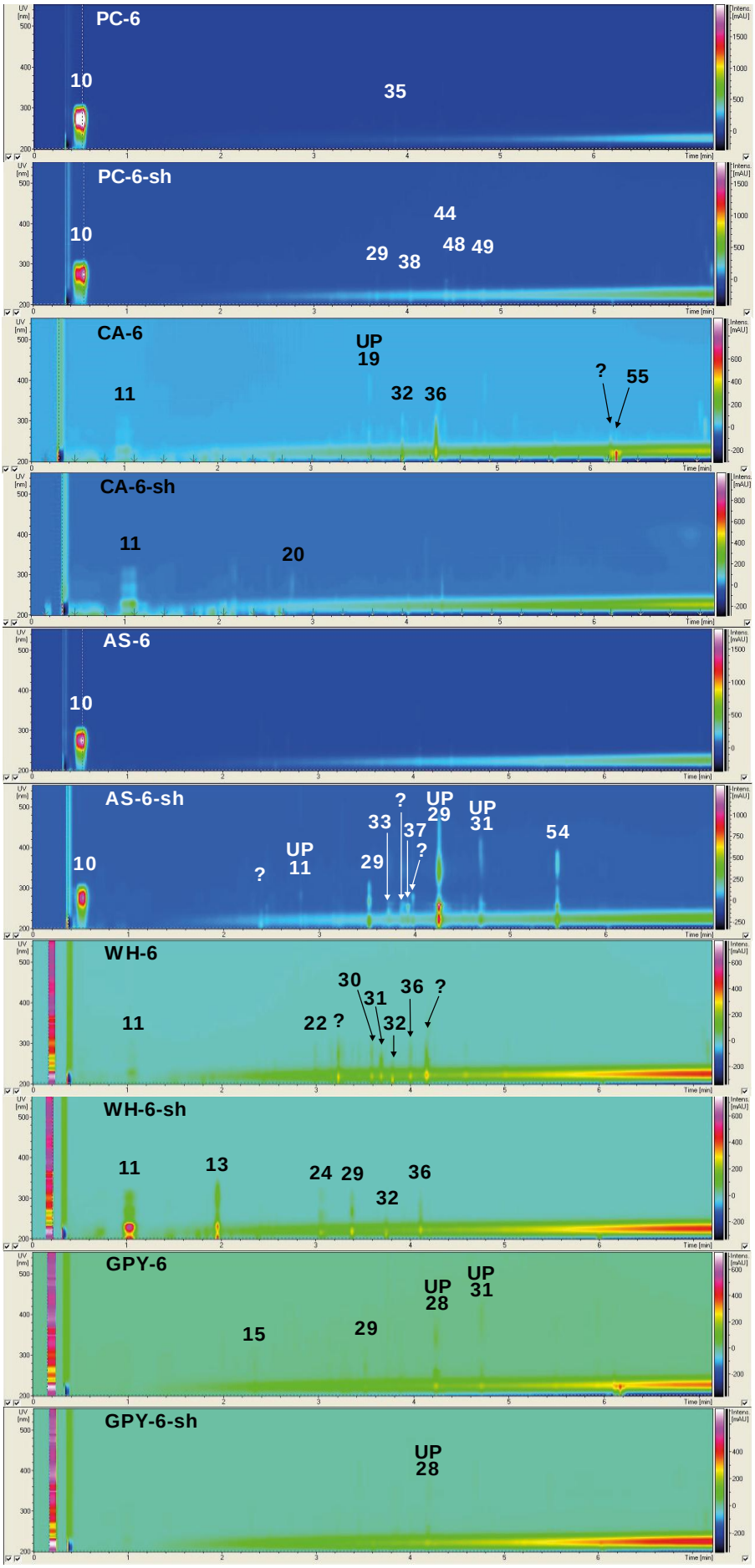


Figure S6. Metabolite profile of strain 6 (*P. antarcticum*) cultured under static and shaking (sh) conditions in five different media.

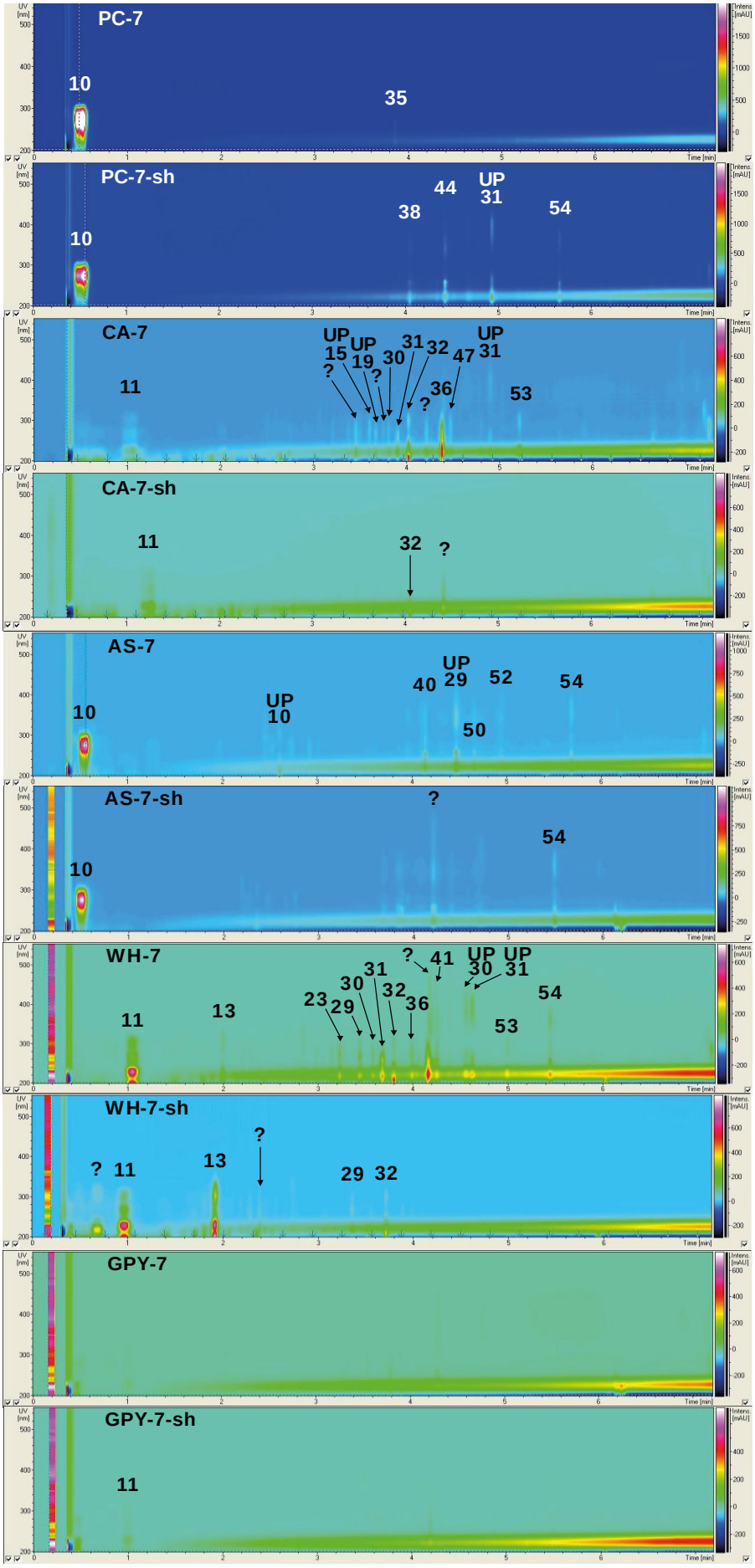


Figure S7. Metabolite profile of strain 7 (*P. antarcticum*) cultured under static and shaking (sh) conditions in five different media.

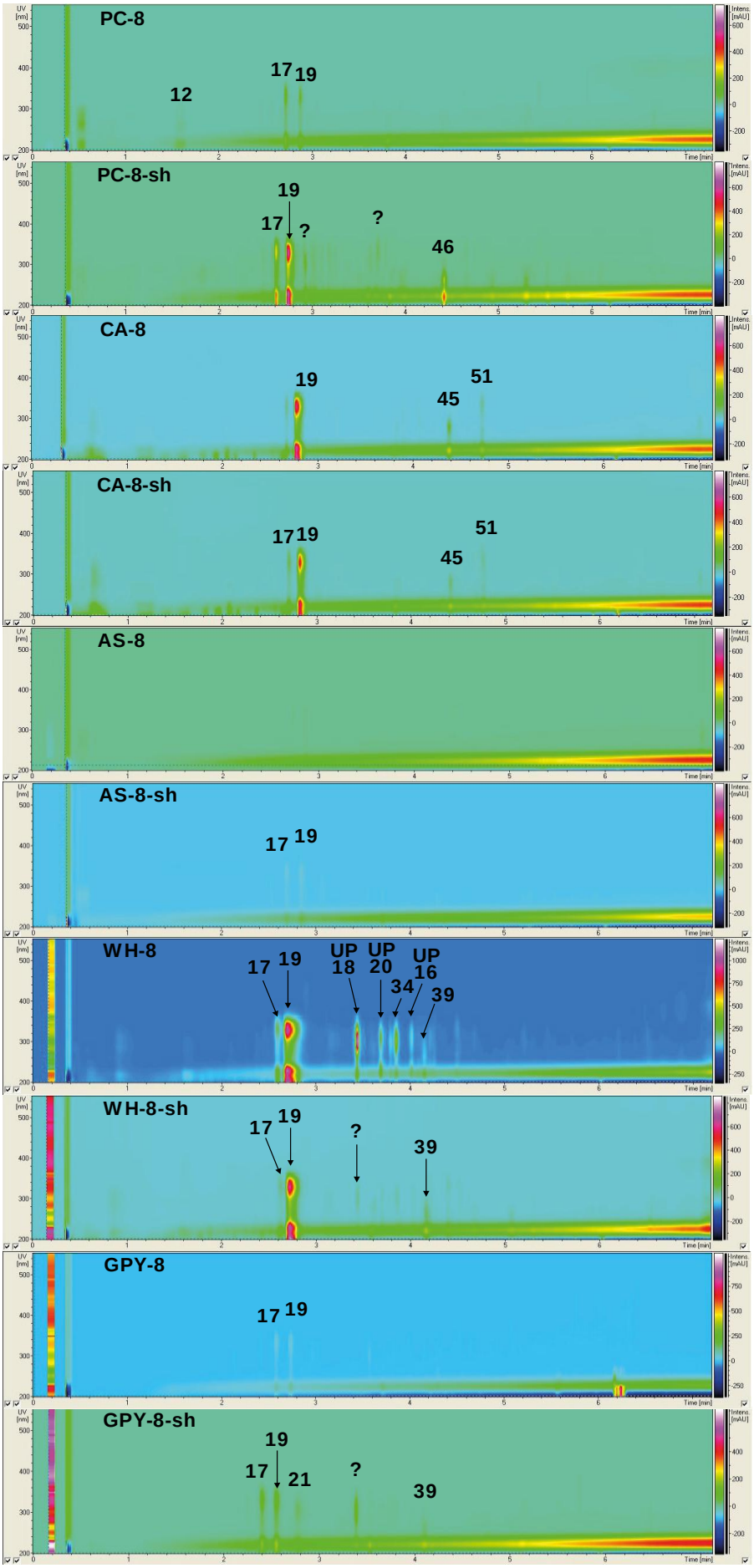


Figure S8. Metabolite profile of strain 8 (*P. atramentosum*) cultured under static and shaking (sh) conditions in five different media.

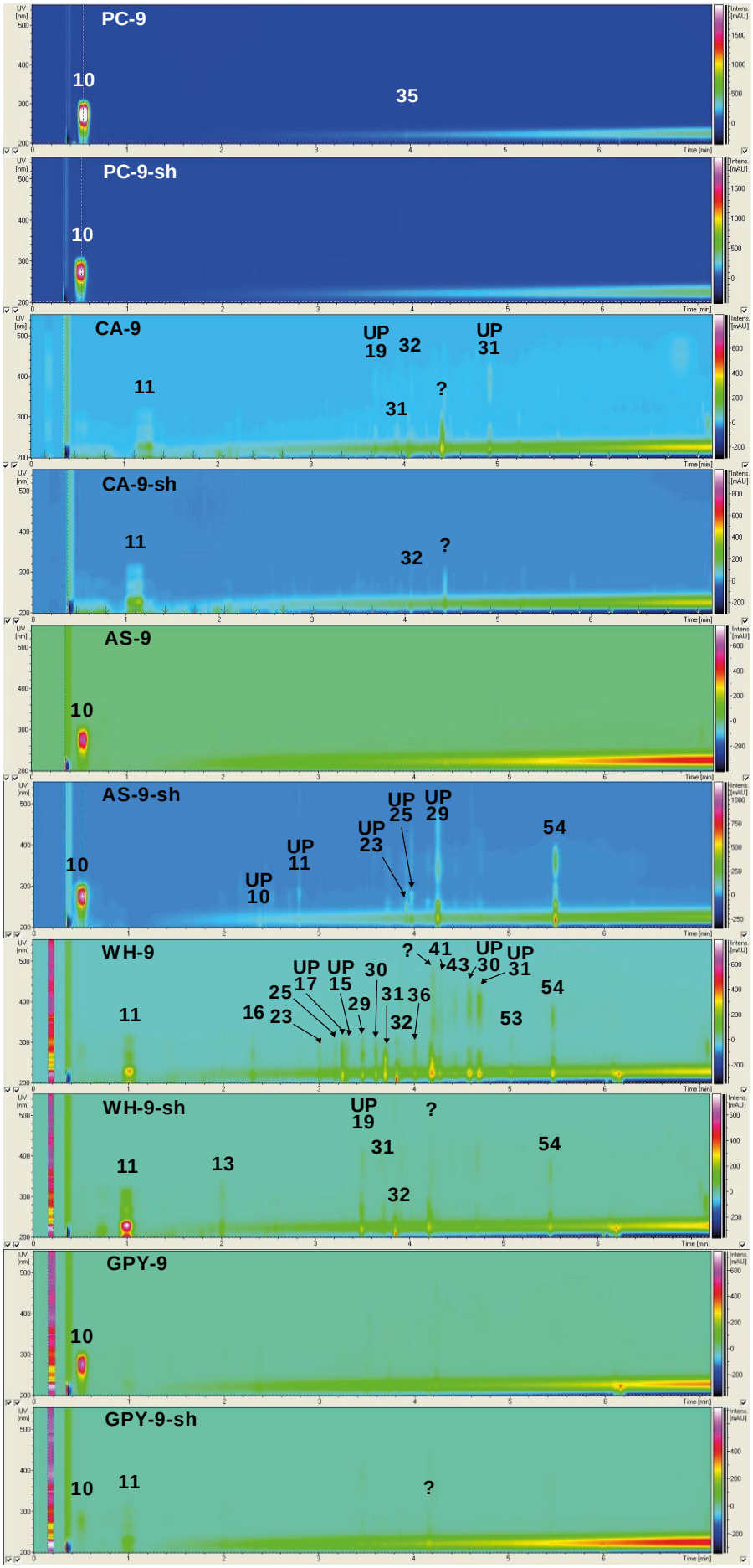


Figure S9. Metabolite profile of strain 9 (*P. atrovenetum*) cultured under static and shaking (sh) conditions in five different media.

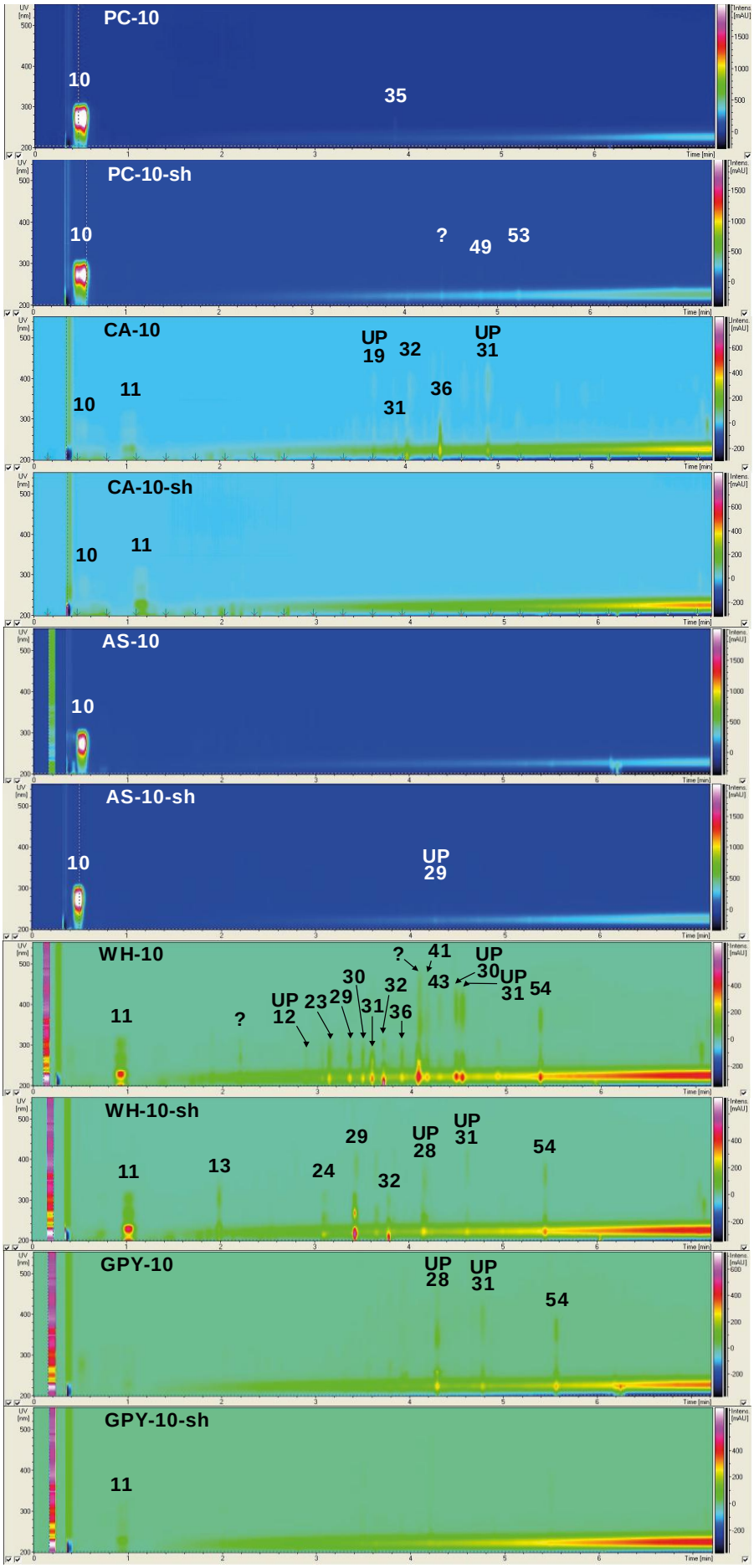


Figure S10. Metabolite profile of strain 10 (*P. atrovenetum*) cultured under static and shaking (sh) conditions in five different media.

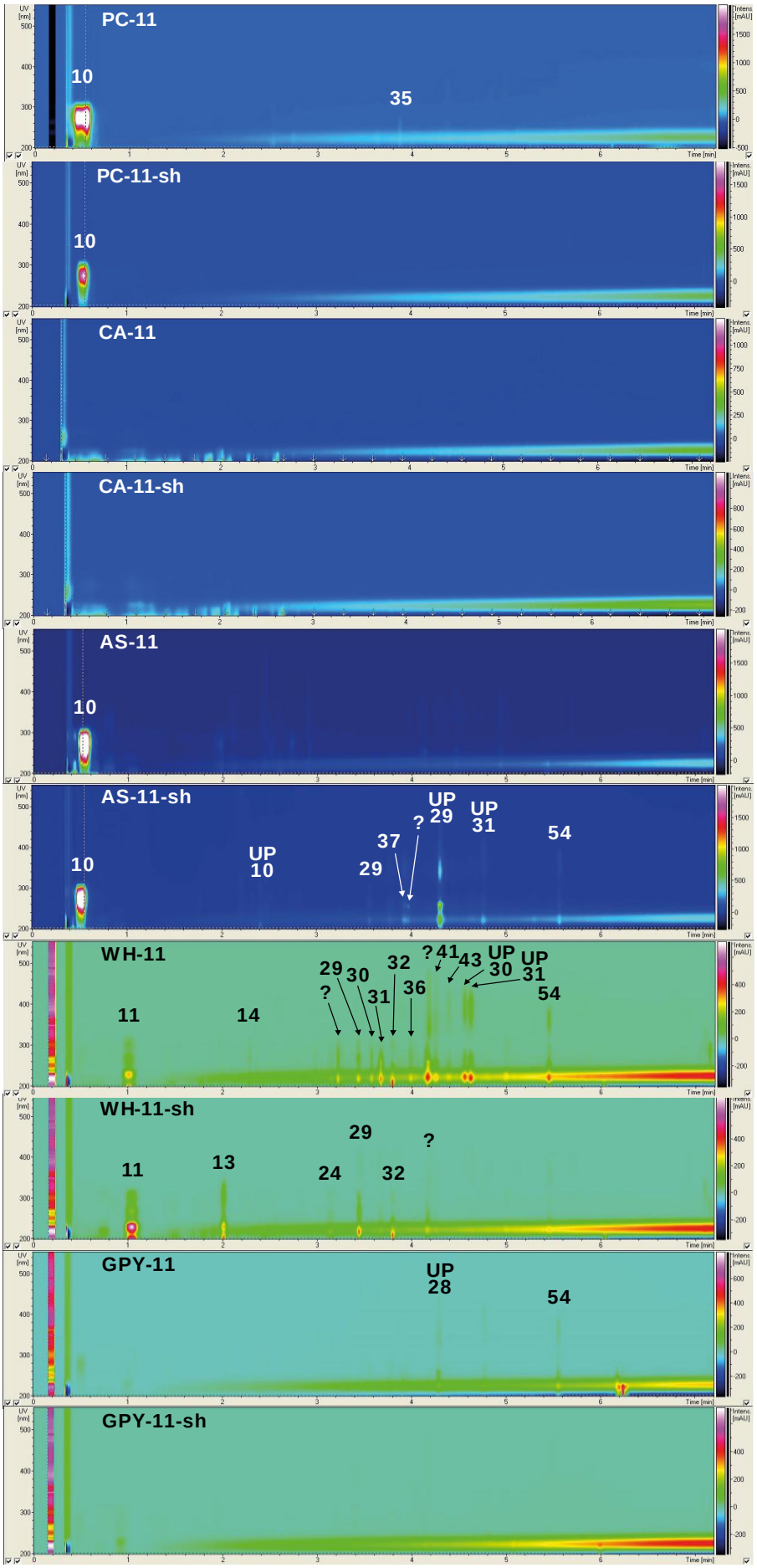


Figure S11. Metabolite profile of strain 11 (*P. atrovenetum*) cultured under static and shaking (sh) conditions in five different media.

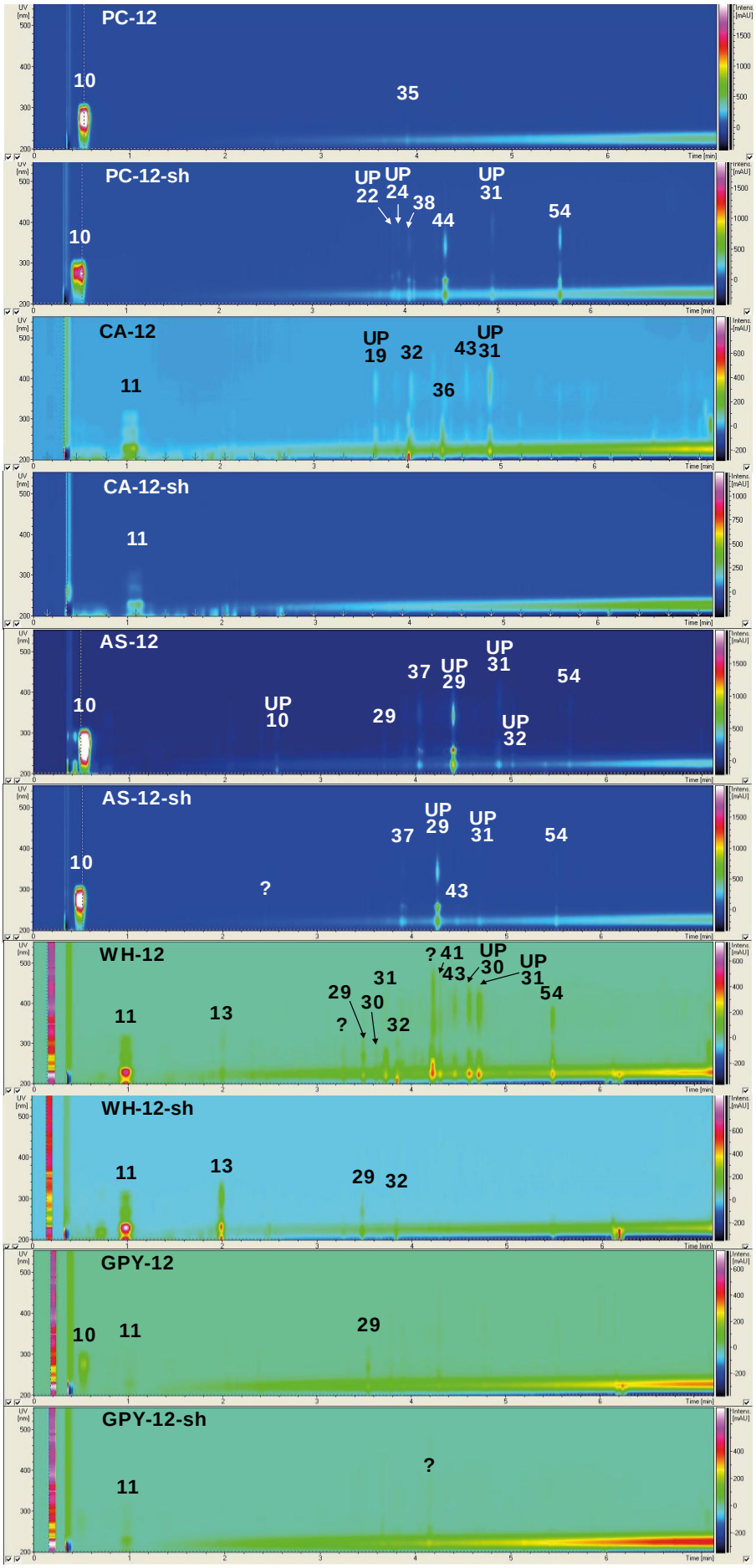


Figure S12. Metabolite profile of strain 12 (*P. atrovenetum*) cultured under static and shaking (sh) conditions in five different media.

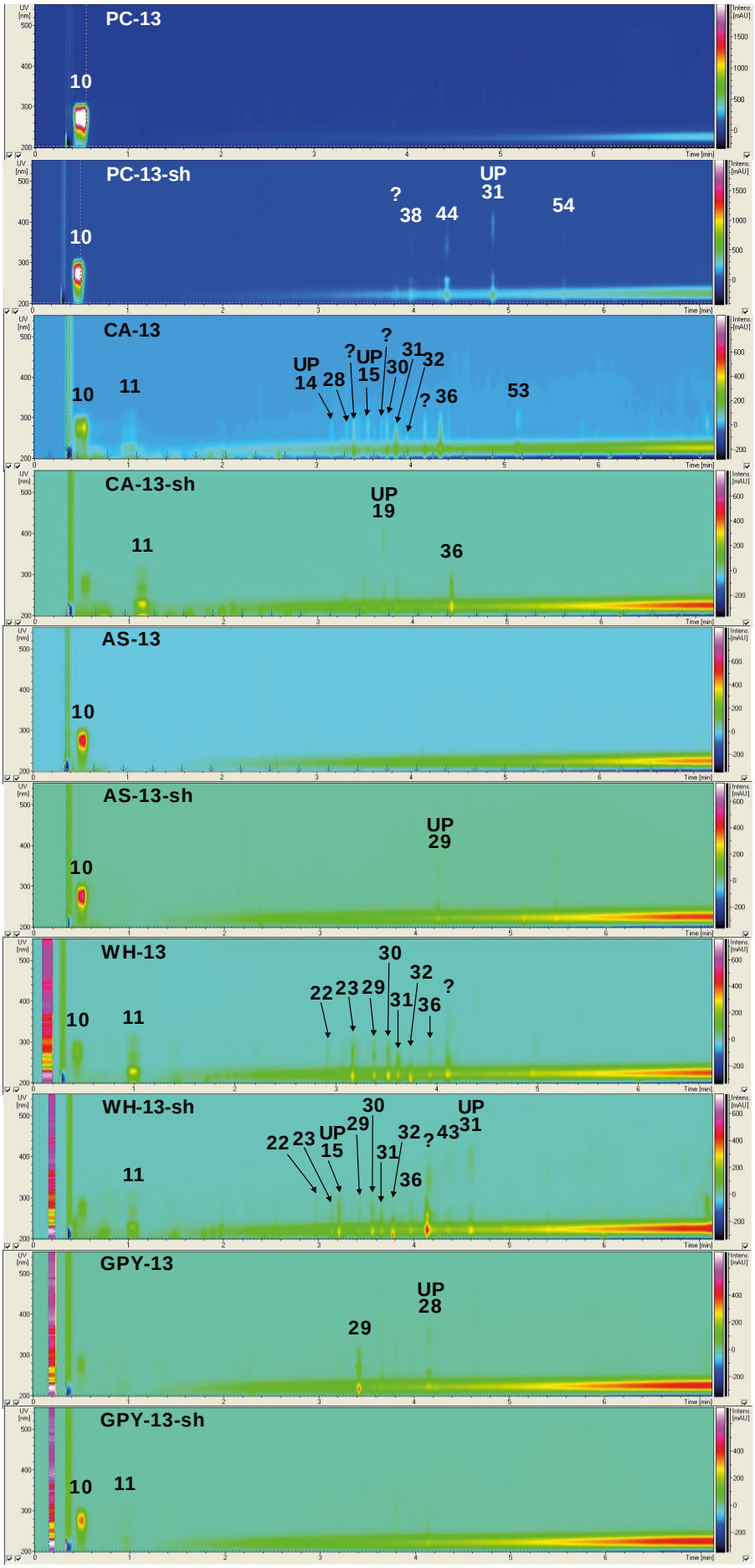
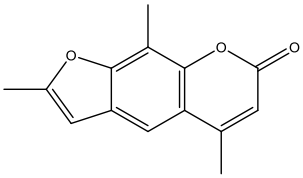


Figure S13. Metabolite profile of strain 13 (*P. atrovenetum*) cultured under static and shaking (sh) conditions in five different media.



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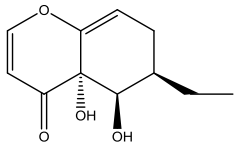

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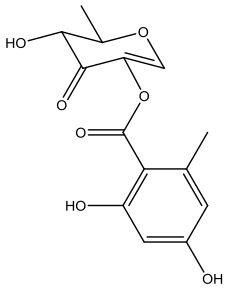

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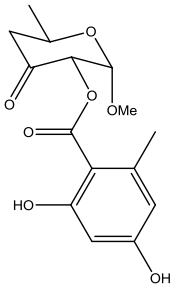

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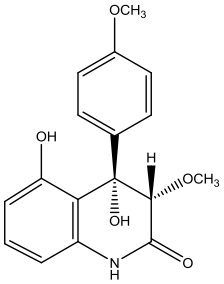

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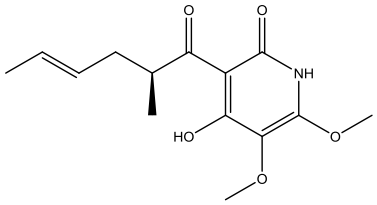

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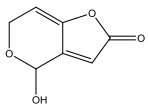

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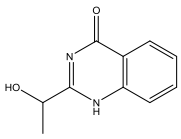

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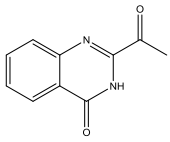

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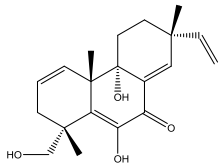

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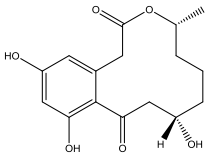

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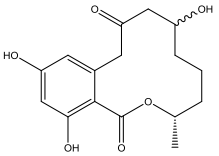

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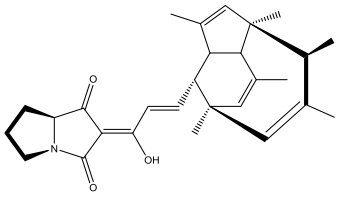

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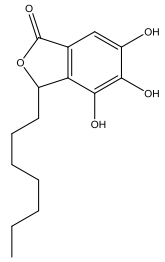

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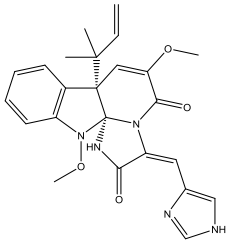

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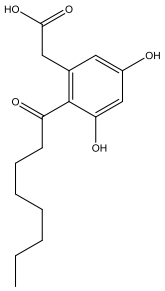

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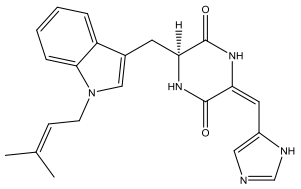

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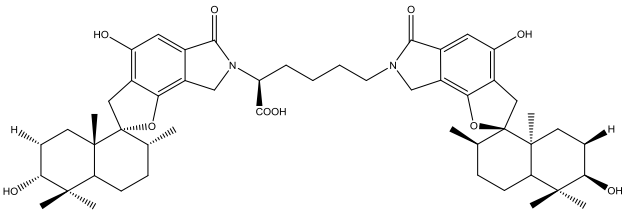

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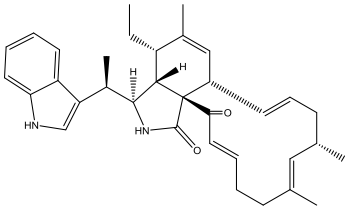

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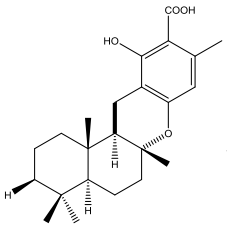

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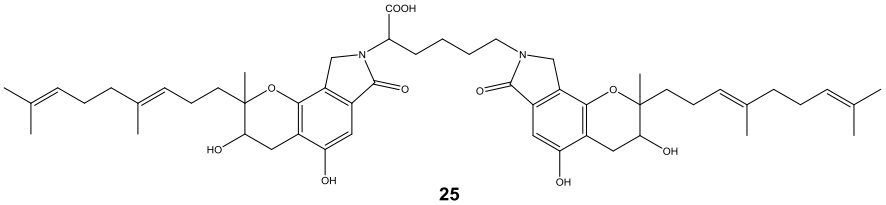

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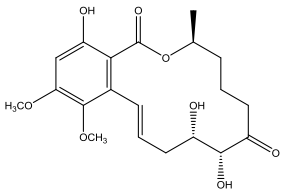

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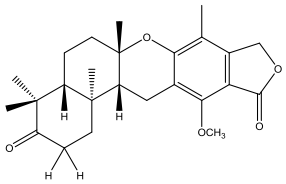

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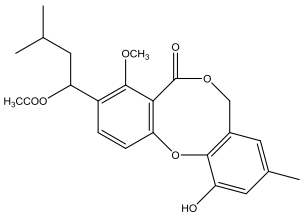

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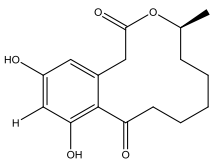

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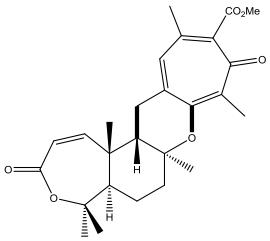

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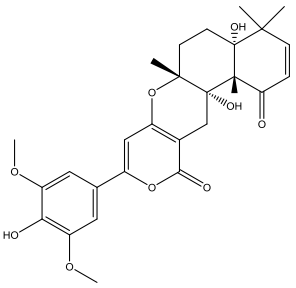

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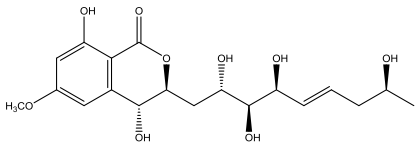

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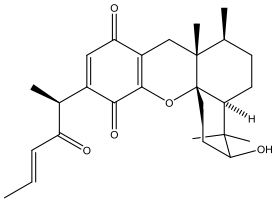

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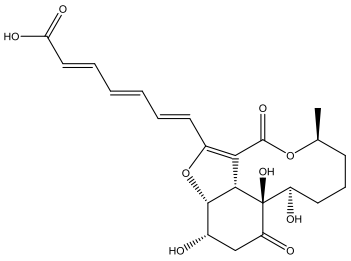

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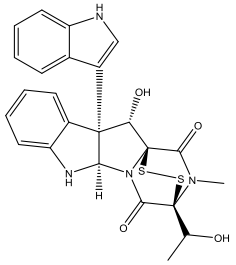

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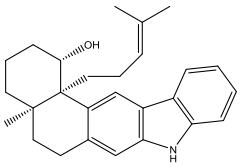

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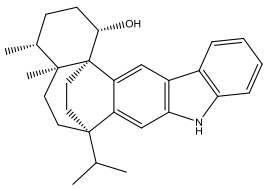

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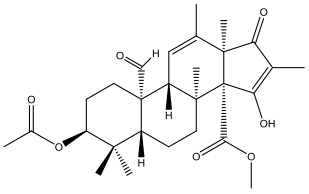

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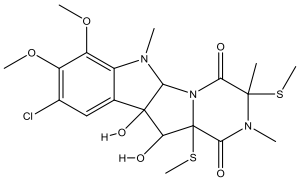

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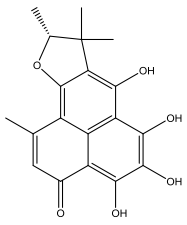

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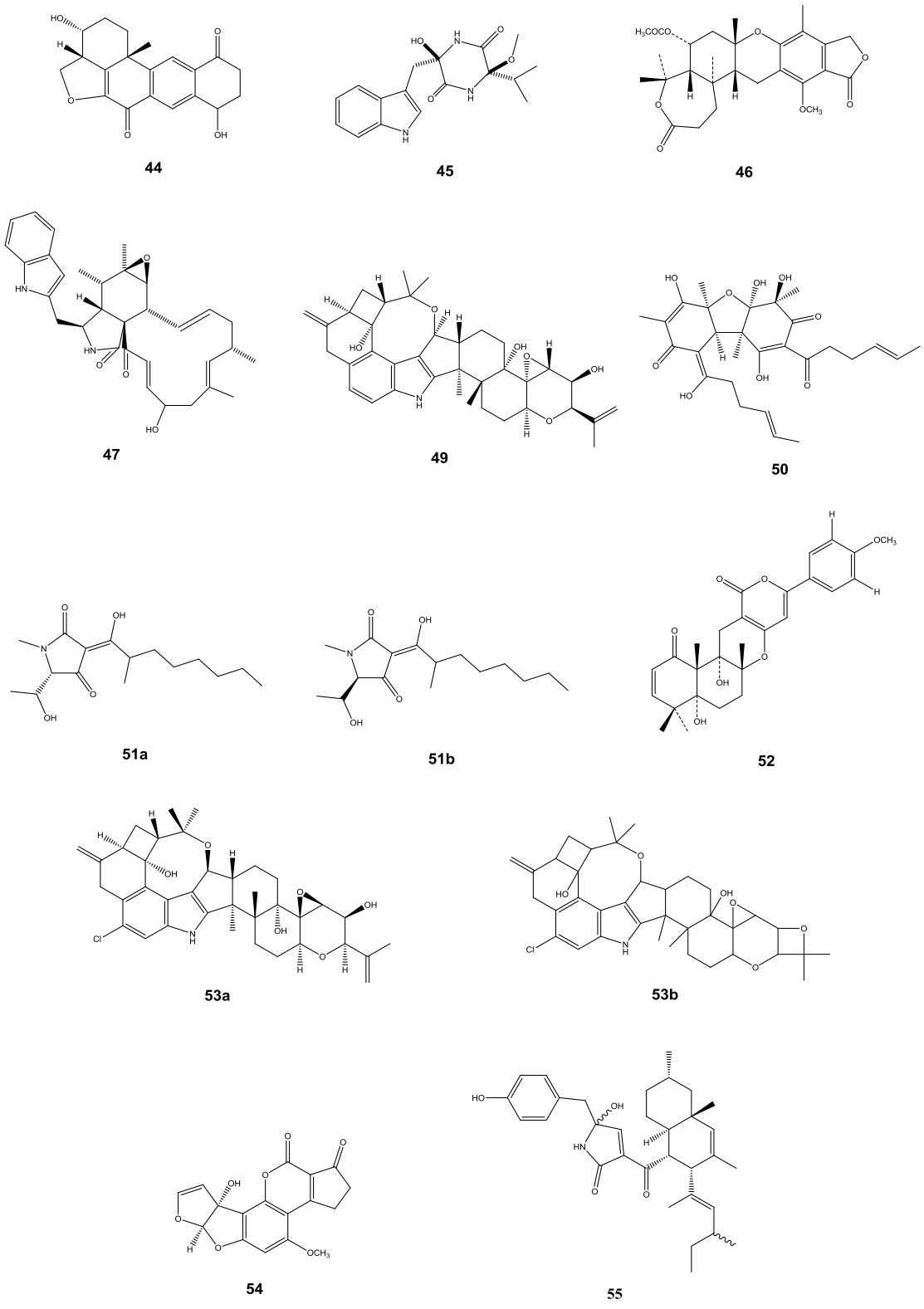

Figure S14. Chemical structures of dereplicated compounds in Table S1 (below). 38a: tubingensin A; 38b: tubingensin B; 51a: penicillenol A1; 51b: penicillenol A1 ; 53a: penitrem A ; 53b: pennigritrem

Table S1. Spectral data used for dereplication of all *Penicillium spp.* (strains 4-13) extracts. n.d.: not detectable, n.i.: not identified, UP: unknown peak.

Peak No.	~ UV_{max} (nm)	Mass $[H]^+$	Dereplication	Produced by strain	Produced in media
10	275	155.0	Patulin [1]	4, 5, 6, 7, 9, 10, 11, 12, 13	PC, PC-sh, CA, CA-sh, AS, AS-sh, WH, WH-sh, GPY, GPY-sh
11	228, 267, 292, 313	191.0	Chrysogine, (S)-form [2]	6, 7, 9, 10, 11, 12, 13	CA, CA-sh, WH, WH-sh, GPY, GPY-sh
12	215, 260, 298	269.1	Globosumone B [3]	8	PC
13	204, 230, 303	189.0	2-Acetyl-4(3H)-quinazolinone [4]	6, 7, 9, 10, 11, 12	WH, WH-sh
14	216, 267, 299	331.1	Libertellenone B [5]	11	WH
15	218, 267, 300	309.1	Curvularin, (S)-form, 11 α-Hydroxy [6]	4, 5, 6, 13	GPY
16	216, 268, 300	309.1	7,8-Dihydro-7α-hyroxyresorcylide [7]	9	WH
17	223, 330, 345	434.1	PF 1018 [8]	8	PC, PC-sh, AS-sh, WH, WH-sh, GPY, GPY-sh
18	220, 269, 350	281.0	Cytosporone E [9]	4	PC-sh
19	224, 279, 327, 342	448.2	Oxaline [10]	8	PC, PC-sh, CA, CA-sh, AS-sh, WH, WH-sh, GPY, GPY-sh
20	220, 276	295.1	Cytosporone A [9]	6	CA, CA-sh
21	220, 304	390.2	Tryhistatin [11]	8	GPY-sh

22	222, 273	883.4	Stachybocin A [12]	4, 5, 6, 13	WH, WH-sh
23	220, 270	511.3	Chaetoglobosin 510 [13]	5, 7, 9, 10, 13	CA, WH, WH-sh
24	215, 257, 305	373.1	Hongoquercin A [14]	6, 10, 11	WH-sh
25	221, 260, 279	883.4	Antibiotic SMTP 8 [15]	9	WH
26	215, 263, 279, 298	395.2	Hamigeromycin D [16]	5	WH-sh
27	220, 268, 280, 298	413.2	Austalide K [17]	5	WH-sh
28	221, 273, 368	415.3	Purpactin A [18]	13	CA
29	217, 267, 300	293.1	Curvularin, (S)-form [19]	4, 5, 6, 11, 12	AS, AS-sh, WH, WH-sh, GPY
30	220, 275	437.2	3-O-Methylterprenin	4, 5, 6, 7, 9, 10, 11, 12, 13	CA, CA-sh, WH, WH-sh
31	219, 259	441.2	Tropolactone C [20]	4, 5, 6, 7, 9, 10, 11, 12, 13	CA, CA-sh, WH, WH-sh, GPY
32	208, 220, 300	402.2	* see full name as footnote	6, 7, 9, 10, 11, 12, 13	CA, CA-sh, WH, WH-sh
33	221, 243, 261, 354	513.2	Territrem C [21]	5, 6	AS-sh
34	220, 300	399.2	Aigialomycin F [22]	8	WH
35	222, 258	441.2	Podosporin A [23]	6, 7, 9, 10, 11, 12	PC

36	220, 271	435.2	Dictyosphaeric acid B [24]	4, 5, 6, 7, 9, 10, 11, 12, 13	CA, CA-sh, WH, WH-sh
37	220, 256, 288, 340	495.1	Bionectin B [25]	6, 11, 12	AS, AS-sh
38	219, 259, 341	402.2	Tubingensin A or B [26, 27]	6, 7, 12, 13	PC-sh
39	220, 262, 290	487.2	Andrastin A [28]	4, 8	WH, WH-sh, GPY-sh
40	220, 255, 288, 338	647.1	Orbuticin [29]	7	AS
41	260, 295, 348, 375	504.1	Sporidesmin D [30]	7, 9, 10, 11, 12	WH
42	225, 258, 280, 340	487.2	Antibiotic UK 88051 [31]	5	WH
43	222, 260, 388	343.1	Atrovenetin [32]	9, 10, 11, 12, 13	CA, AS-sh, WH, WH-sh
44	222, 250, 259, 340	341.2	Tetrahydrohalenaquinone A [33]	6, 7, 12, 13	PC-sh
45	222, 279	332.2	Polanrazine E [34]	8	CA, CA-sh
46	220, 261	487.0	Austalide I [17]	8	PC-sh
47	223, 260, 288	515.3	20-Dihydroprotochaetoglobosin III [35]	7	CA
48	221, 261, 300	307.2	Antibiotic PO1	6	PC-sh
49	223, 288, 347	600.4	Penitrem E [36]	4, 5, 6, 10	PC-sh, CA, WH

50	222, 260, 340	517.1	2',2'',3',3''-Tetrahydrobisvertinolone [37]	7	AS
51	222, 269, 334	298.1	Penicillenol A_1 or A_2 [38]	8	CA, CA-sh
52	222, 259, 343	467.1	Arisugacin B [39]	7	AS
53	225, 296, 347	634.2	Penitrem A or Pennigritrem [40]	7, 9, 10, 13	PC-sh, CA
54	255, 297, 356, 380	329.1	Aflatoxin M1 [41]	5, 6, 7, 9, 10, 11, 12, 13	PC-sh, AS, AS-sh, WH, WH-sh, GPY
55	<200, 221, 267	506.6	Talaroconvolutin B [42]	6	CA
UP 10	210, 242, 305	135.0	n.h.	7, 9, 11, 12	AS, AS-sh
UP 11	220, 278, 286	317.1	n.h.	6, 9	AS-sh
UP 12	220, 270	535.3	n.h.	10	WH
UP 13	222, 272	883.4	n.h.	5	WH, WH-sh
UP 14	220, 271	472.2	n.h.	13	CA
UP 15	219, 272	453.2	n.h.	4, 5, 7, 9, 13	CA, CA-sh, WH, WH-sh
UP 16	223, 309, 361	365.2	n.h.	8	WH
UP 17	216, 274	395.2	n.h.	9	WH

UP 18	218, 300, 360	851.4	n.h.	8	WH
UP 19	220, 268, 355, 385	516.2	n.h.	5, 6, 7, 9, 10, 12, 13	CA, CA-sh, WH-sh
UP 20	224, 240, 308	383.3	n.h.	8	WH
UP 21	222, 297	402.2	n.h.	5	WH
UP 22	222, 267, 350	421.2	n.h.	12	PC-sh
UP 23	220, 255, 288, 340	313.1	n.h.	9	AS-sh
UP 24	221, 274, 355, 395	485.2	n.h.	12	PC-sh
UP 25	216, 277, 358	301.1	n.h.	9	AS-sh
UP 26	220, 291, 364, 425	365.2	n.h.	5	AS-sh
UP 27	222, 276	435.2	n.h.	5	CA, WH-sh
UP 28	222, 259, 340	341.1	n.h.	5, 6, 10, 11, 13	WH-sh, GPY, GPY-sh
UP 29	222, 248, 259, 340	739.1	n.h.	4, 5, 6, 7, 9, 10, 11, 12, 13	AS, AS-sh
UP 30	222, 263, 372, 405	504.1	n.h.	7, 9, 10, 11, 12	WH
UP 31	220, 260, 358, 404	357.2	n.h.	5, 6, 7, 9, 10, 11, 12, 13	PC-sh, CA, AS, AS-sh, WH, WH-sh, GPY

UP 32	222, 245, 278, 344	389.1	n.h.	12	AS

* 4-Hydroxy-1-methoxy-5-phenyl-3 (tetrahydro-6-(3-hydroxy-1 methylpropyl)-3,5-dimethyl-2H-pyran-2-yl)-2(1H)-pyridinone

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