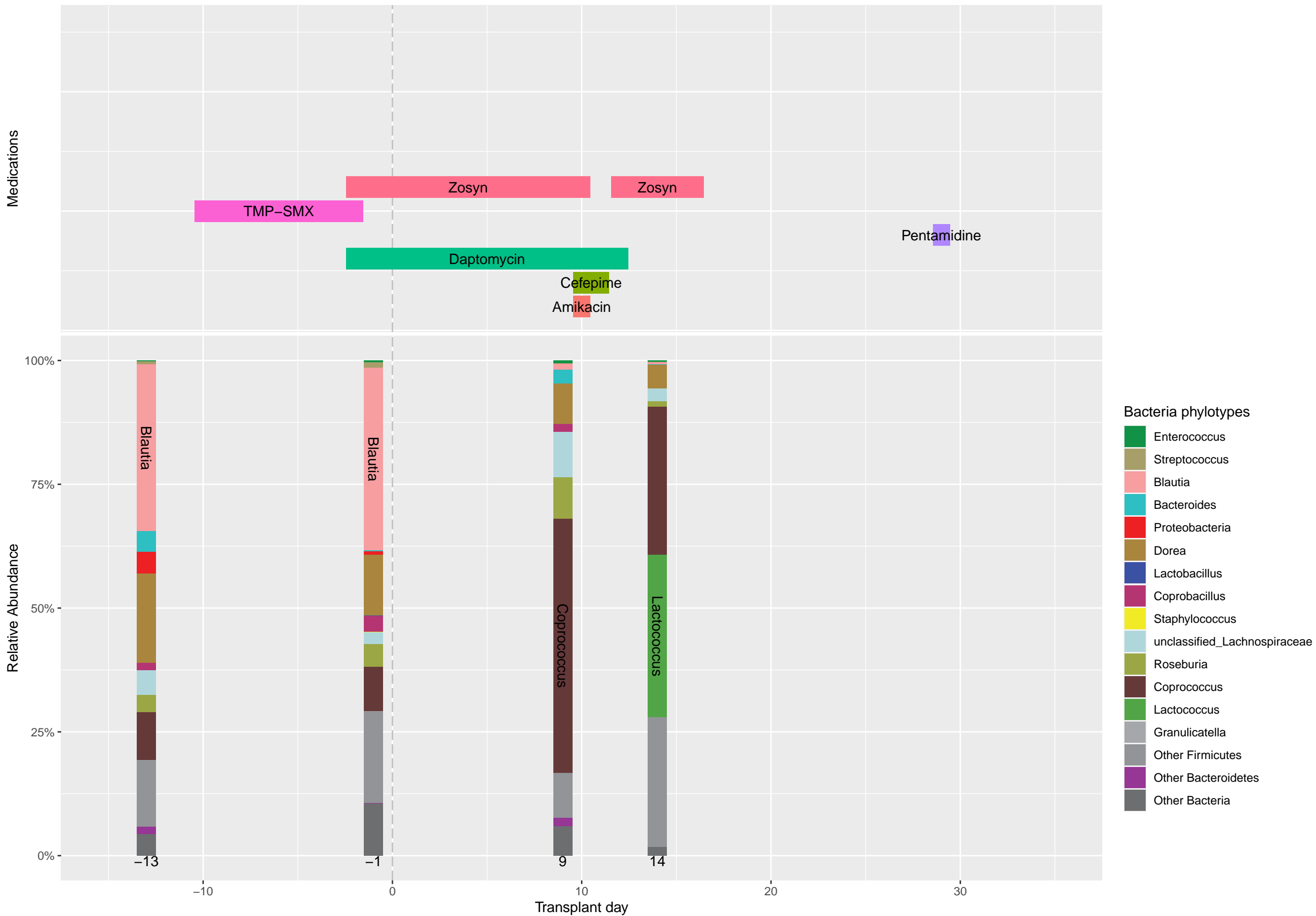
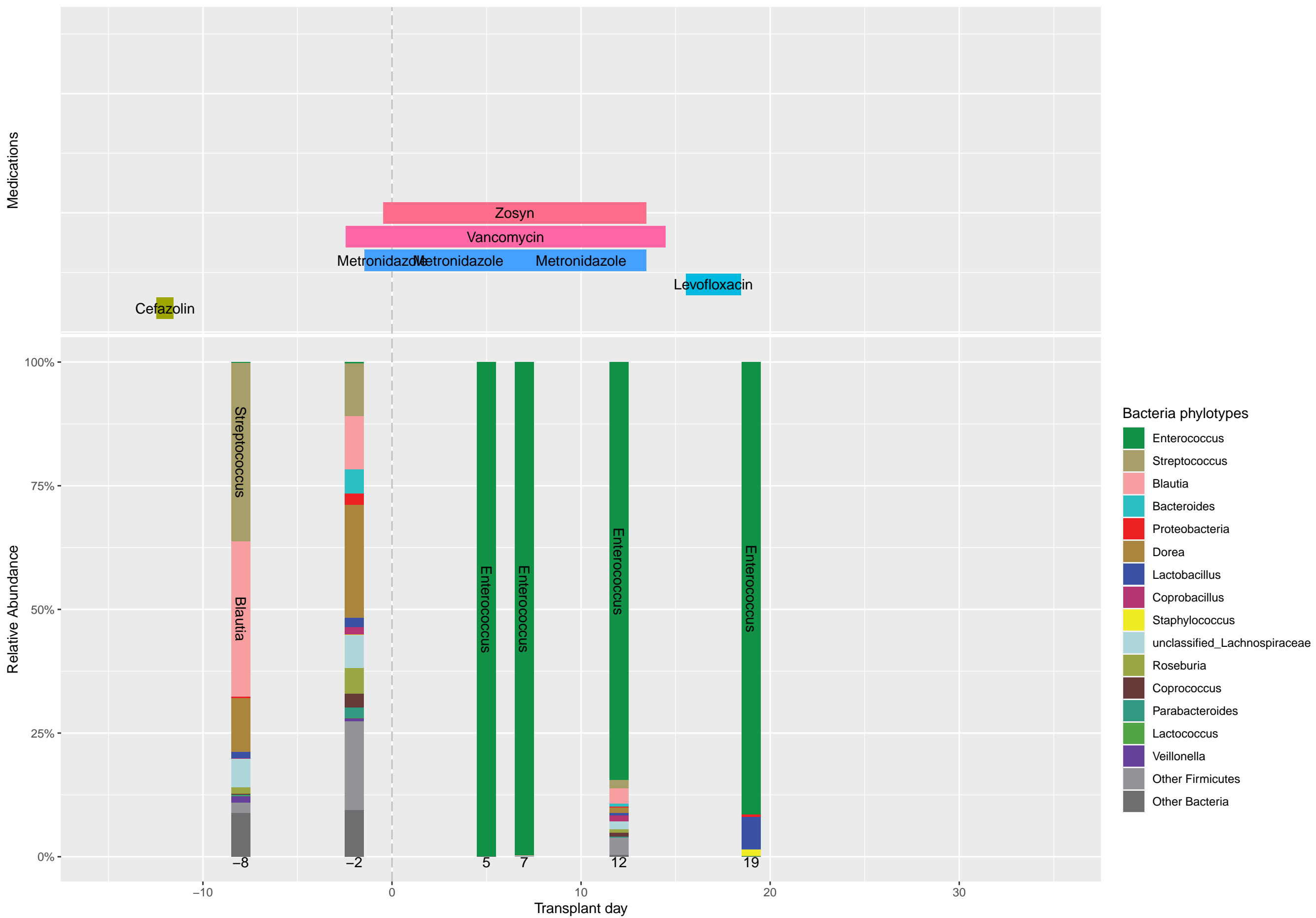




Patient 103 (Leukemia)



### Patient 112 (Multiple Myeloma)



Patient 114 (Multiple Myeloma)

Medications

100%

75%

50%

25%

0%

Relative Abundance

-10

0

Transplant day

6

12

20

30

-8

Streptococcus

Coprobacillus

Coprobacillus

Zosyn

Vancomycin

Pentamidine

Augmentin

Pentamidine

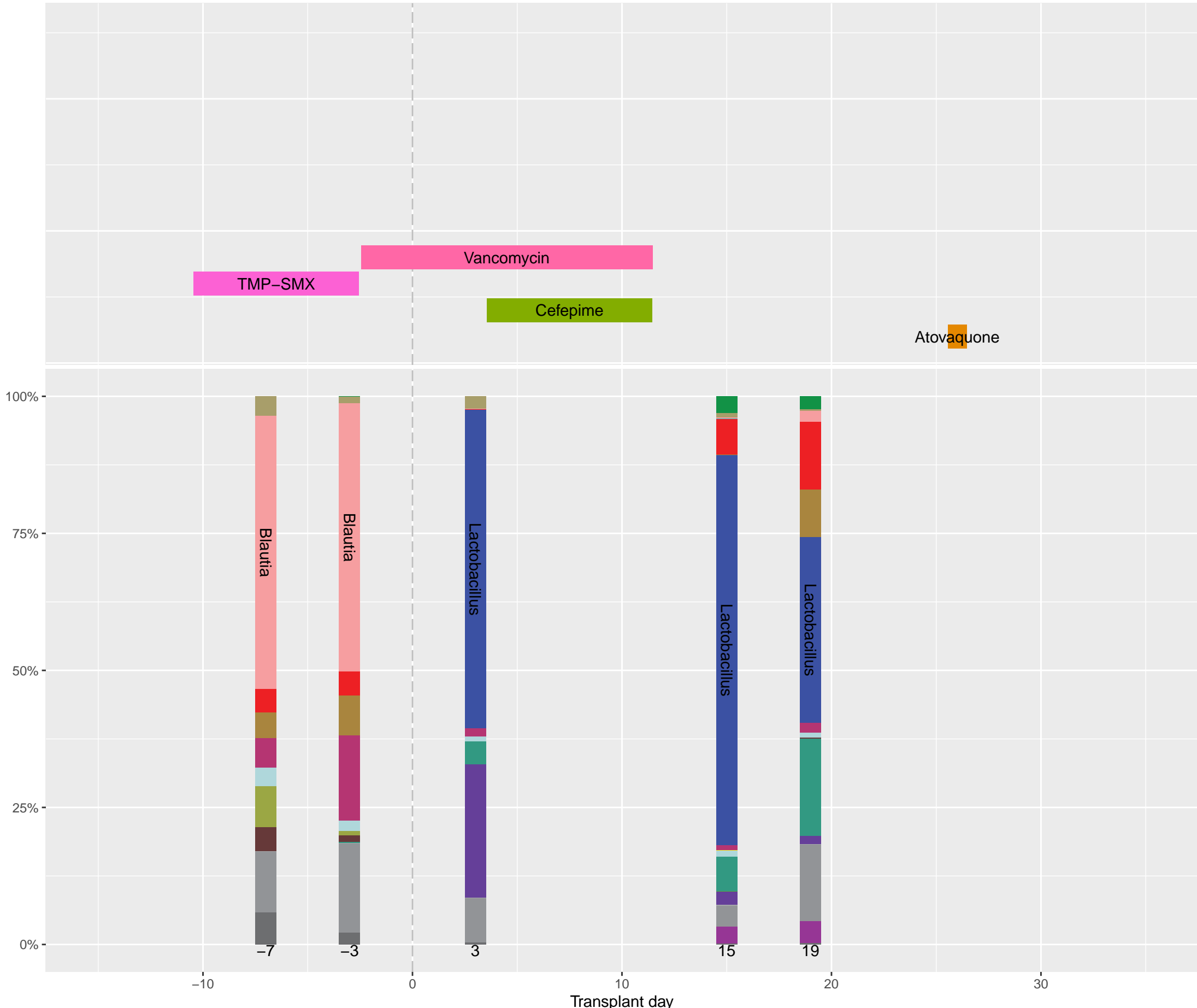
Bacteria phylotypes

- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

Patient 117 (Leukemia)

Medications

Relative Abundance



Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

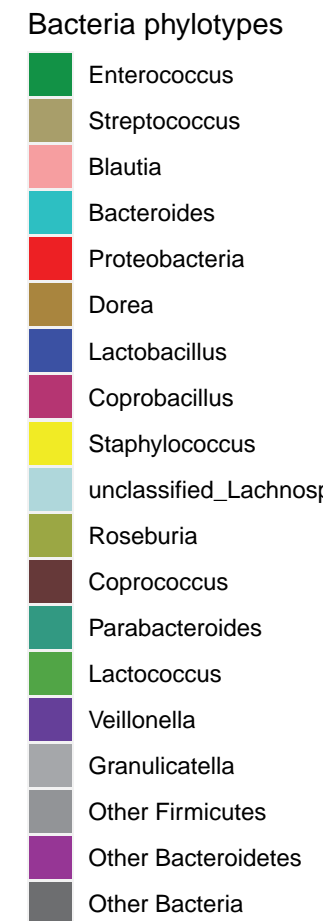
The figure consists of two vertically aligned plots sharing a common x-axis labeled "Transplant day" with major ticks at -10, 0, 10, 20, and 30.

The top plot is a horizontal bar chart showing the duration of antibiotic treatment for various drugs. The bars are color-coded and labeled with the drug name. The treatment periods are as follows:

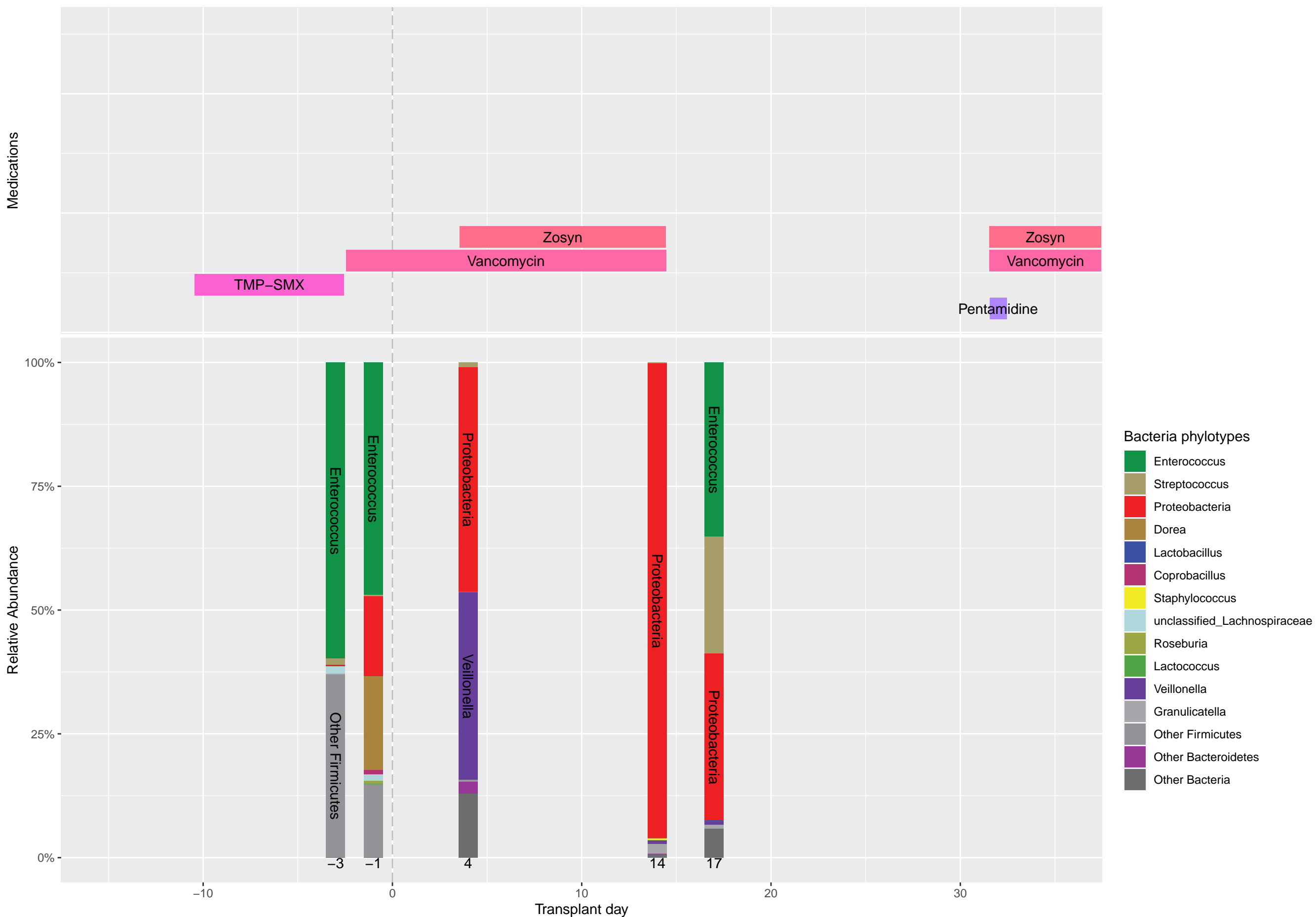
- TMP-SMX** (pink): From approximately day -7 to day -1.
- Vancomycin** (pink): From approximately day -2 to day 12.
- Zosyn** (pink): From approximately day 1 to day 12.
- Zosyn** (pink): From approximately day 14 to day 16.
- Vancomycin** (pink): From approximately day 15 to day 24.
- Azithromycin** (yellow): From approximately day 16 to day 17.
- Aztreonam** (olive green): From approximately day 16 to day 24.
- Cefpodoxime** (light green): From approximately day 22 to day 24.

The bottom plot is a stacked bar chart showing the relative growth of different bacterial species at three time points: -1, 6, and 19 days relative to transplant. The y-axis represents relative growth, with a dashed line at the top. The species are labeled vertically within their respective colored segments:

- At day -1:** The bar is composed of many segments. The most prominent is a large pink segment labeled **Blautia**. Other visible segments include grey, brown, purple, and blue.
- At day 6:** The bar is dominated by a single, large olive green segment labeled **Streptococcus**. There are very small segments of other colors at the bottom.
- At day 19:** The bar is dominated by a large green segment labeled **Enterococcus**. Below it is a large olive green segment labeled **Streptococcus**. There are also small segments of yellow and grey at the bottom.



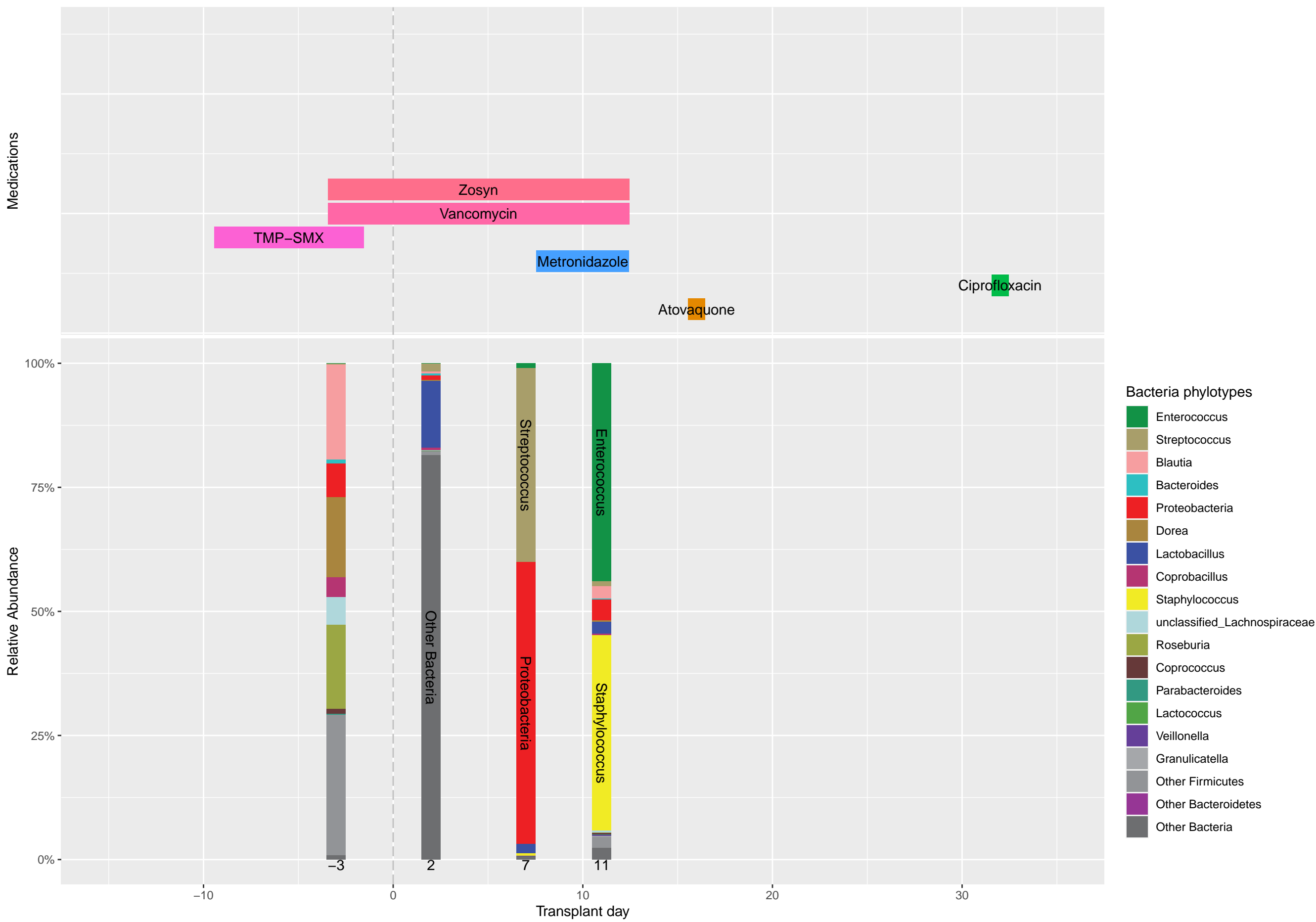
Patient 120 (Myelodysplastic Syndrome)



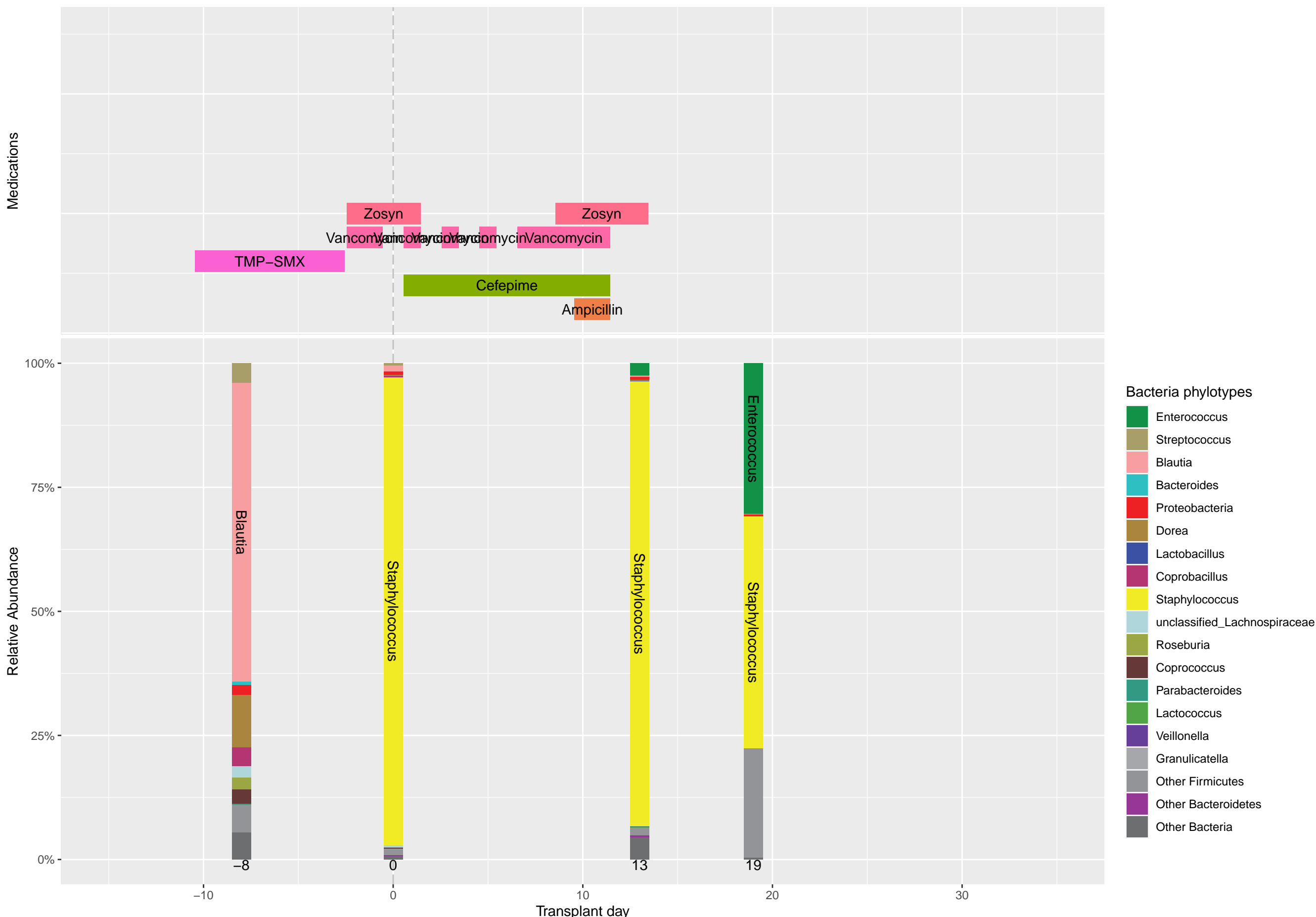




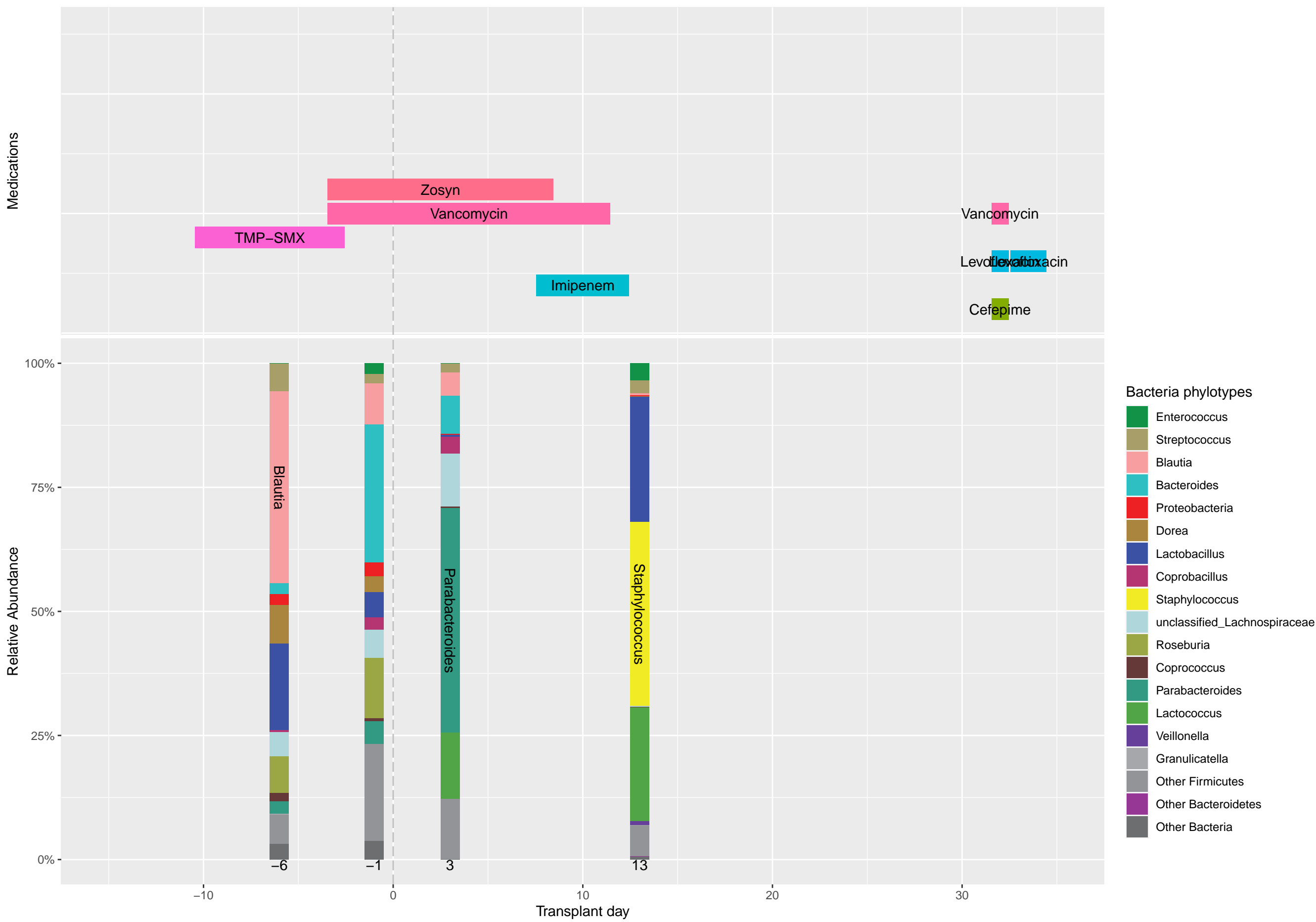
Patient 130 (Multiple Myeloma)



Patient 132 (Leukemia)



Patient 133 (Multiple Myeloma)



Patient 134 (Leukemia)

Medications

100%

75%

50%

25%

0%

Relative Abundance

-5

4

12

Transplant day

Bacteria phylotypes

- Enterococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteria

Enterococcus

Enterococcus

Enterococcus

Patient 138 (Leukemia)

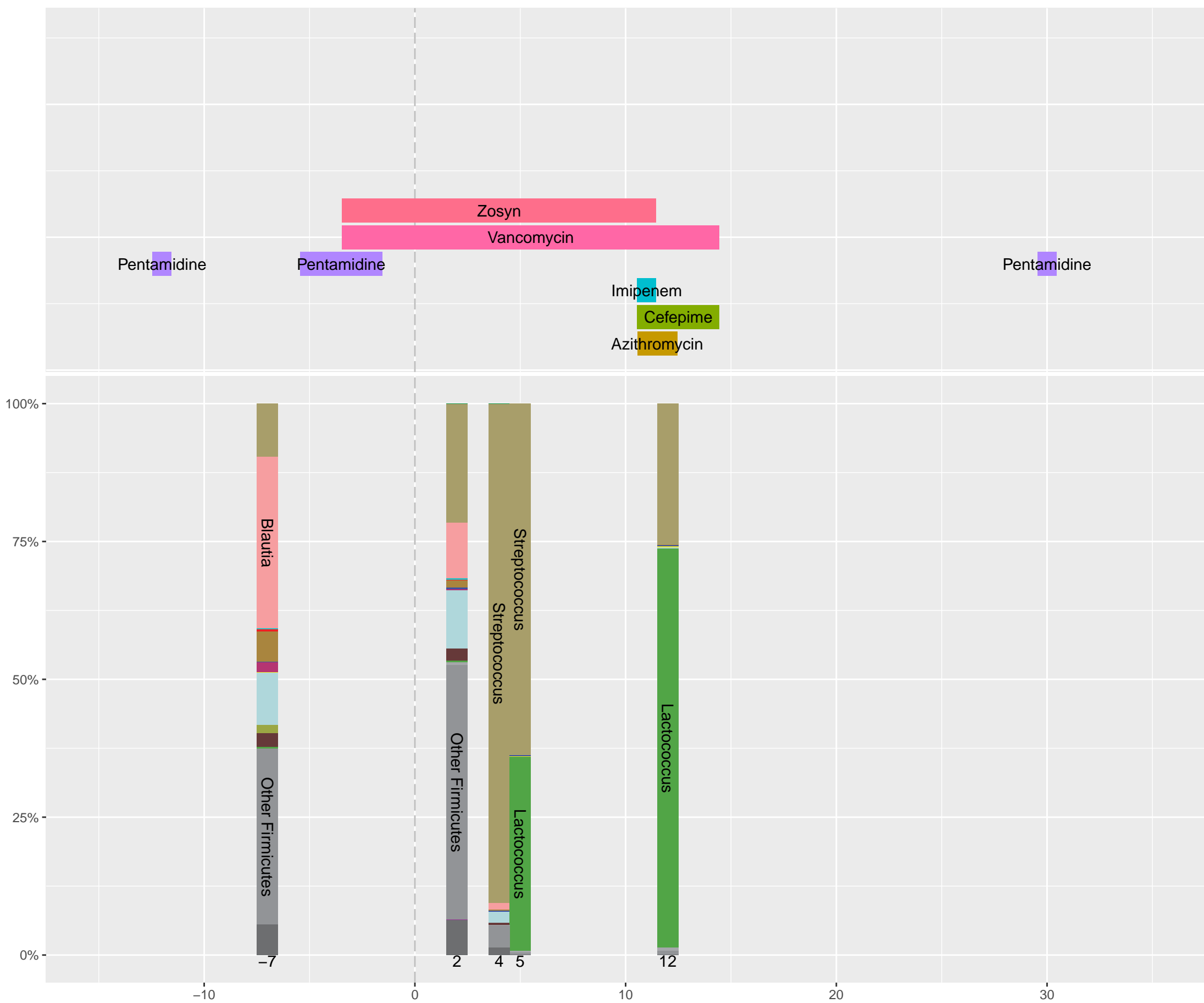
Medications

Relative Abundance

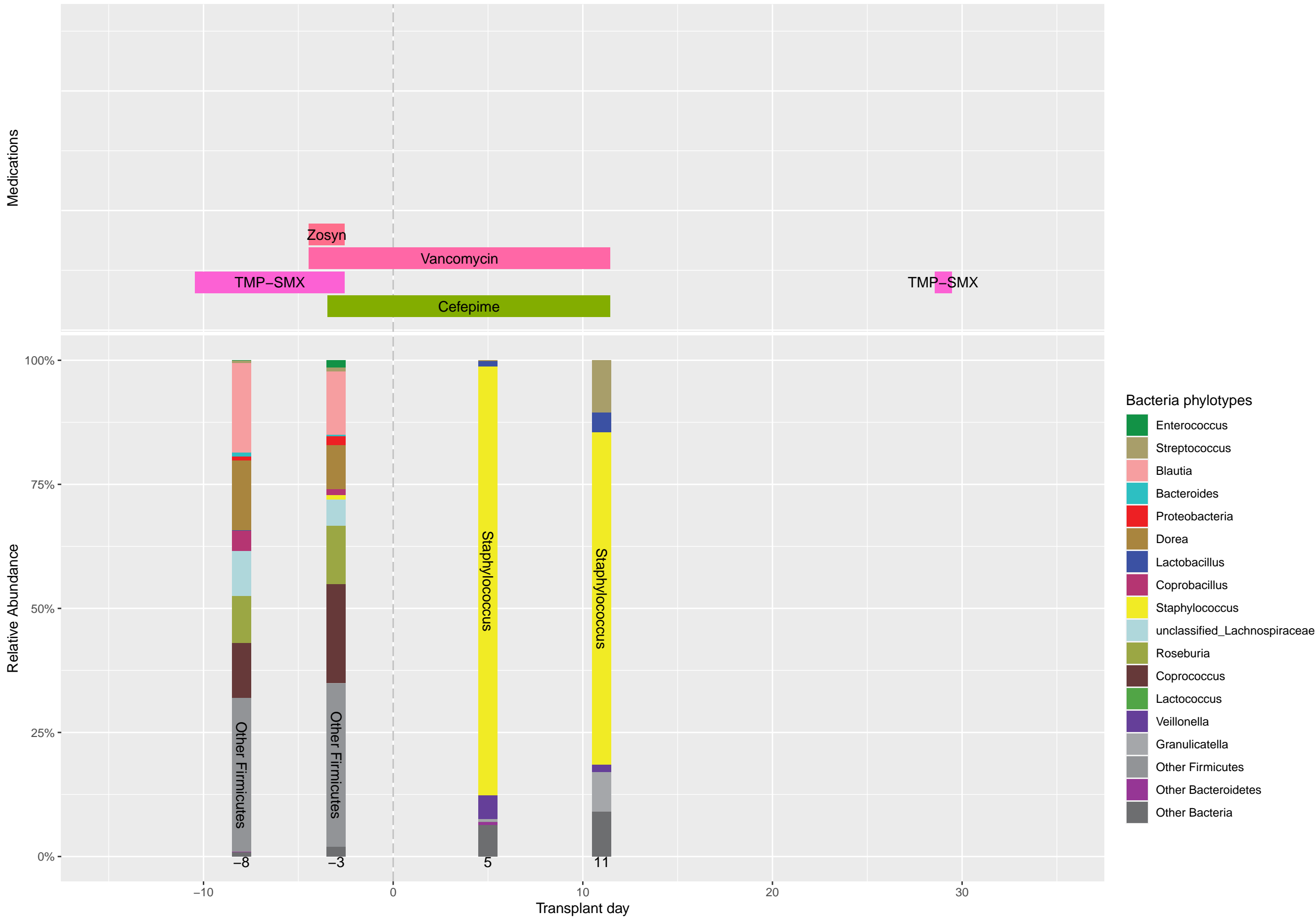
Transplant day

Bacteria phylotypes

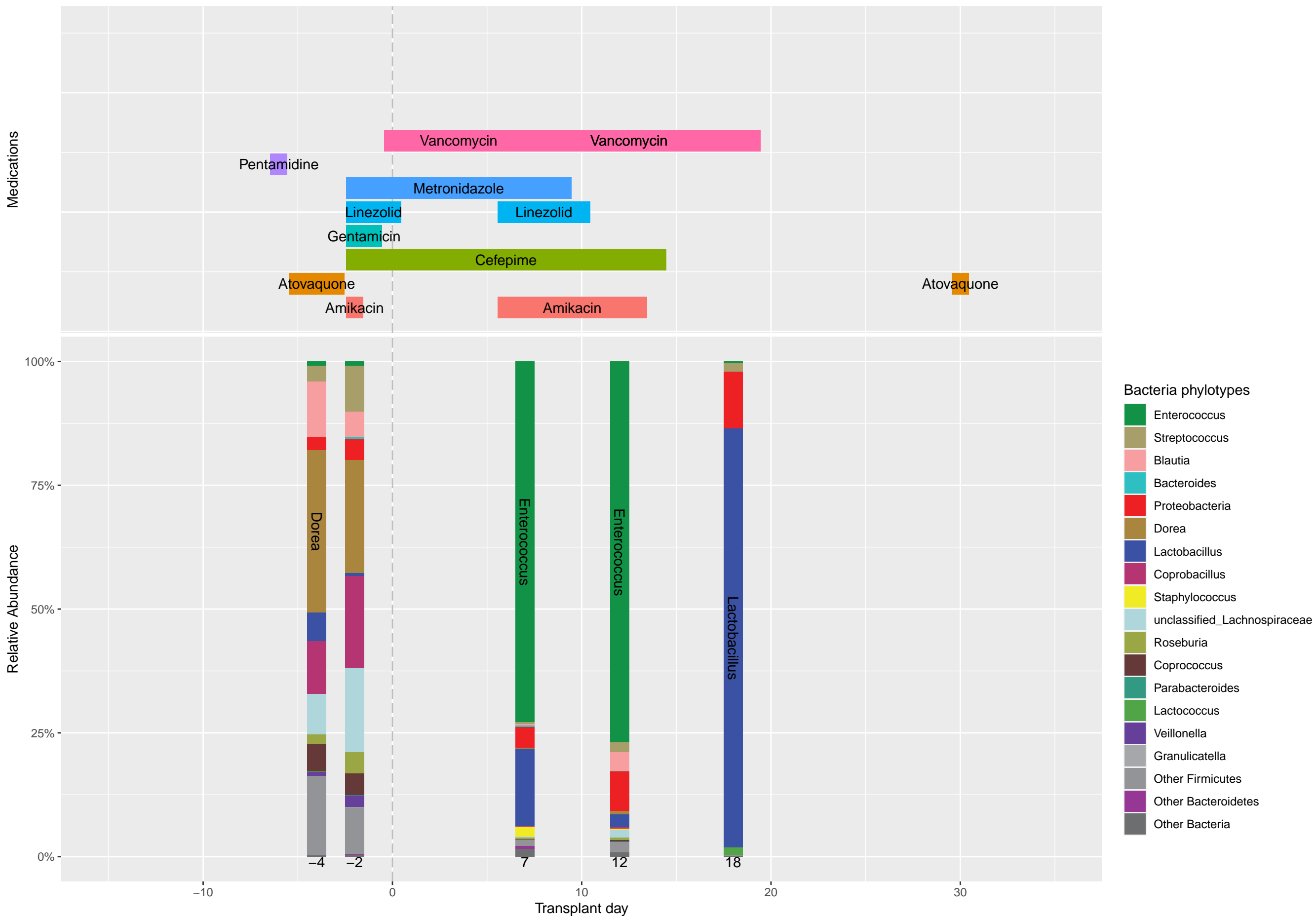
- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coproccoccus
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria



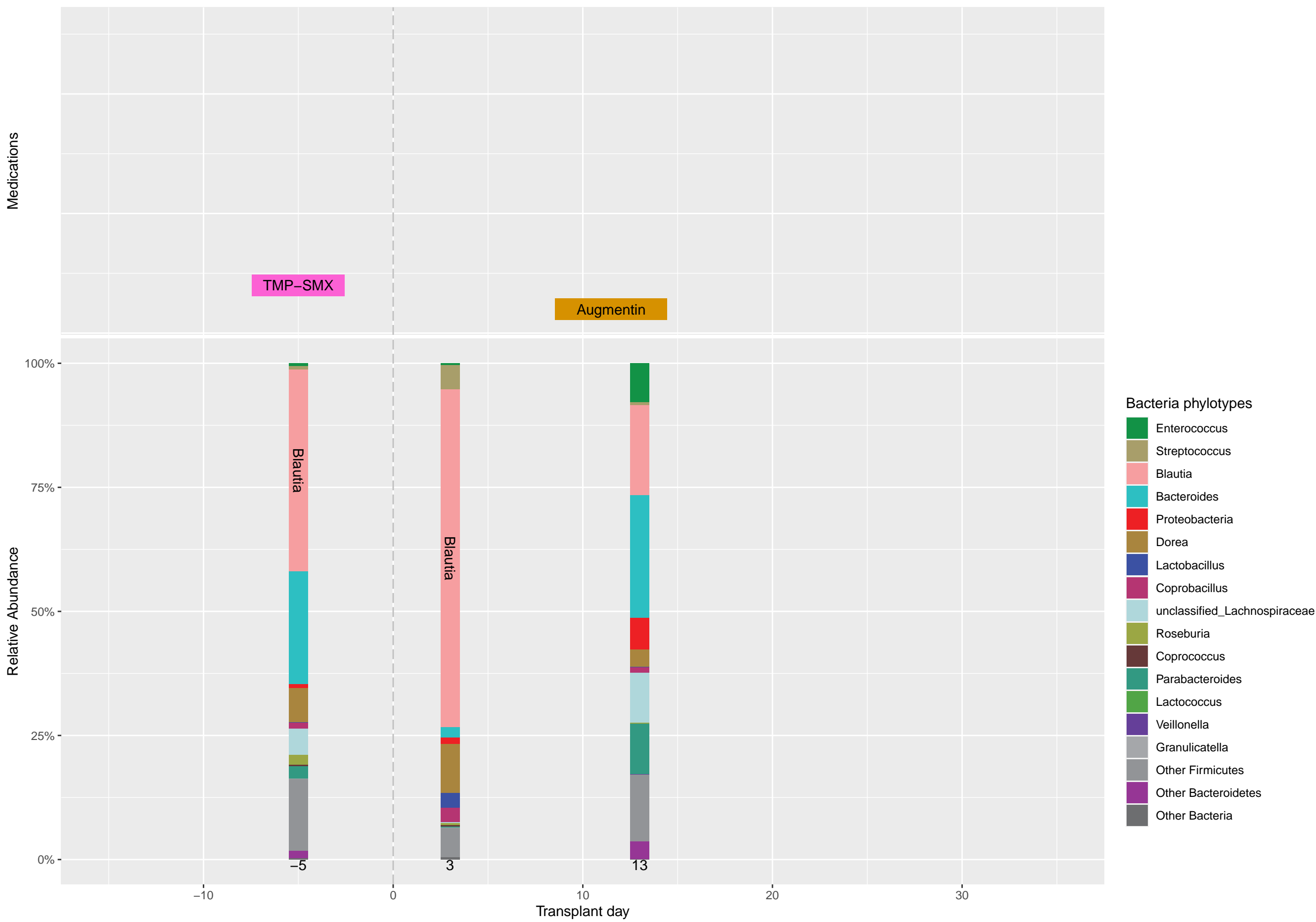
Patient 139 (Leukemia)



Patient 142 (Leukemia)

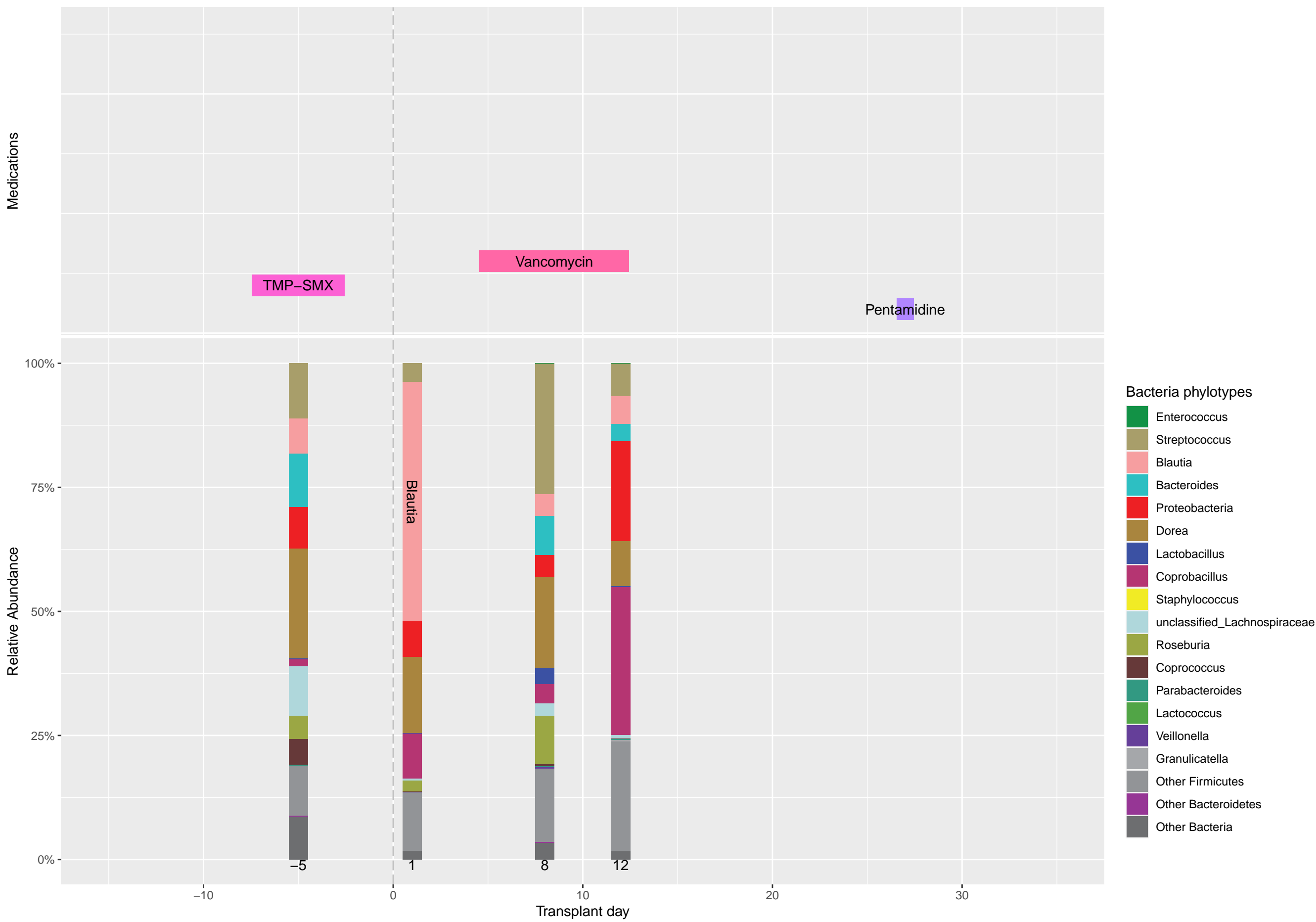


Patient 143 (Lymphoma)

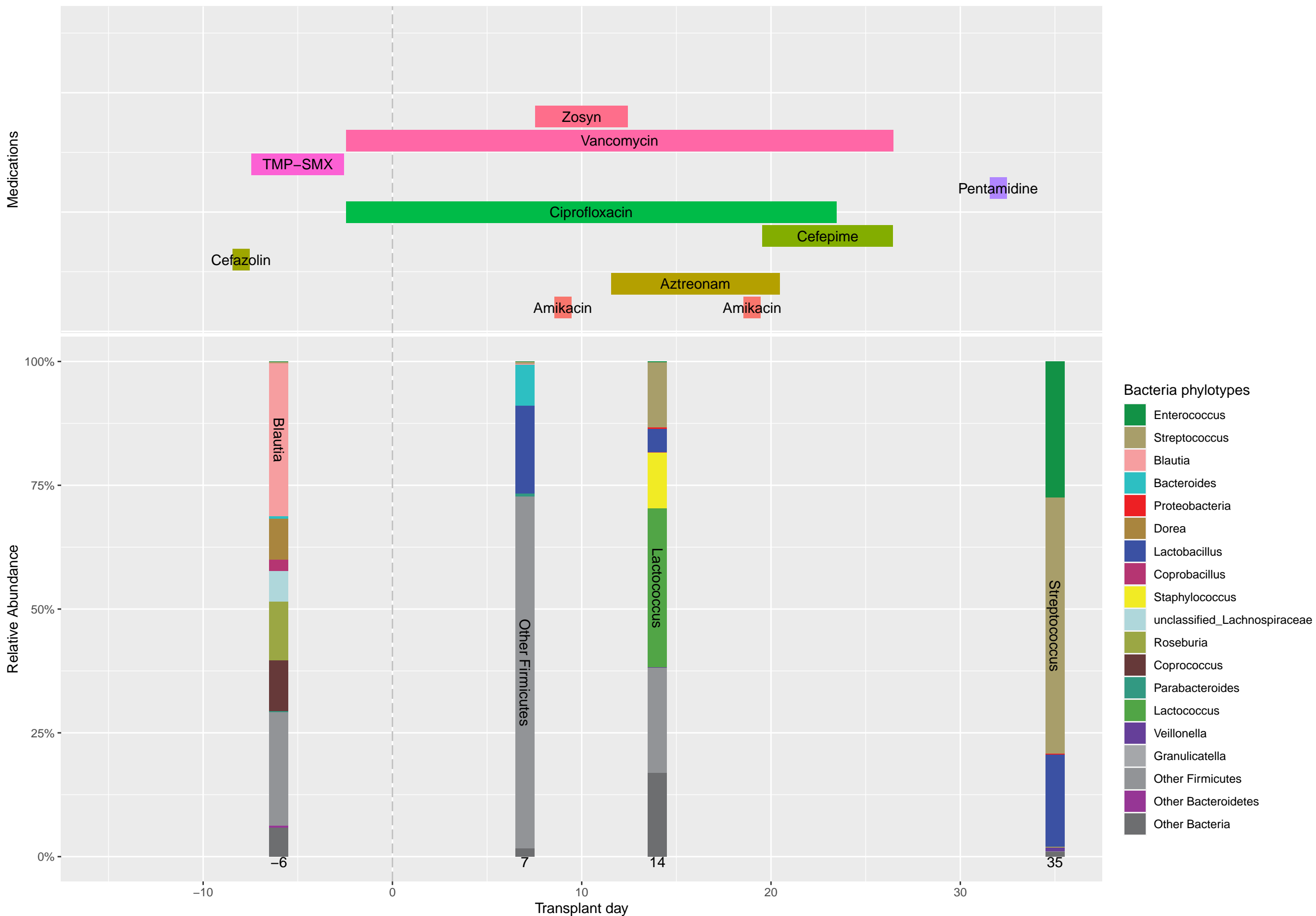




Patient 144 (Lymphoma)



Patient 145 (Myelodysplastic Syndrome)

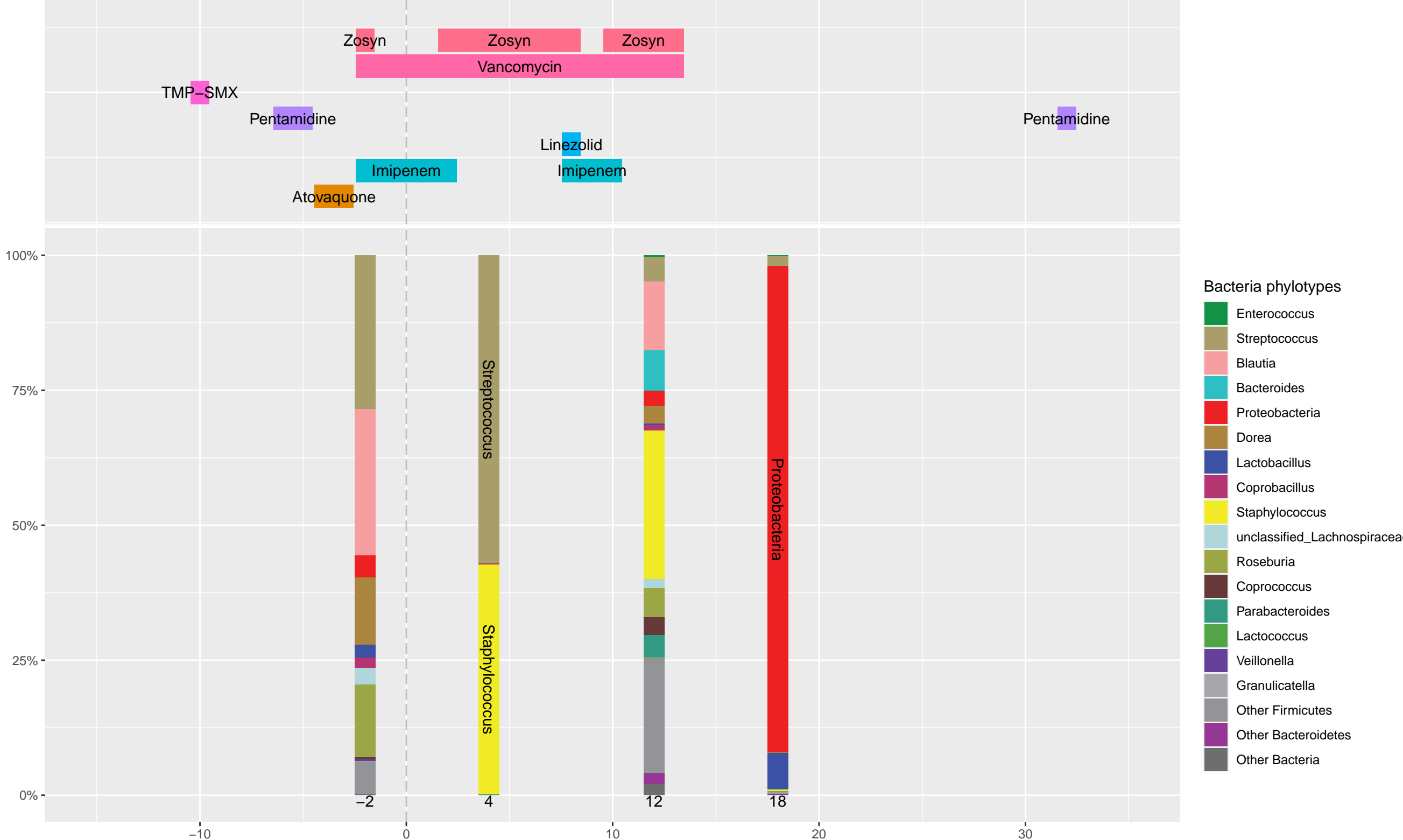


Patient 149 (Leukemia)

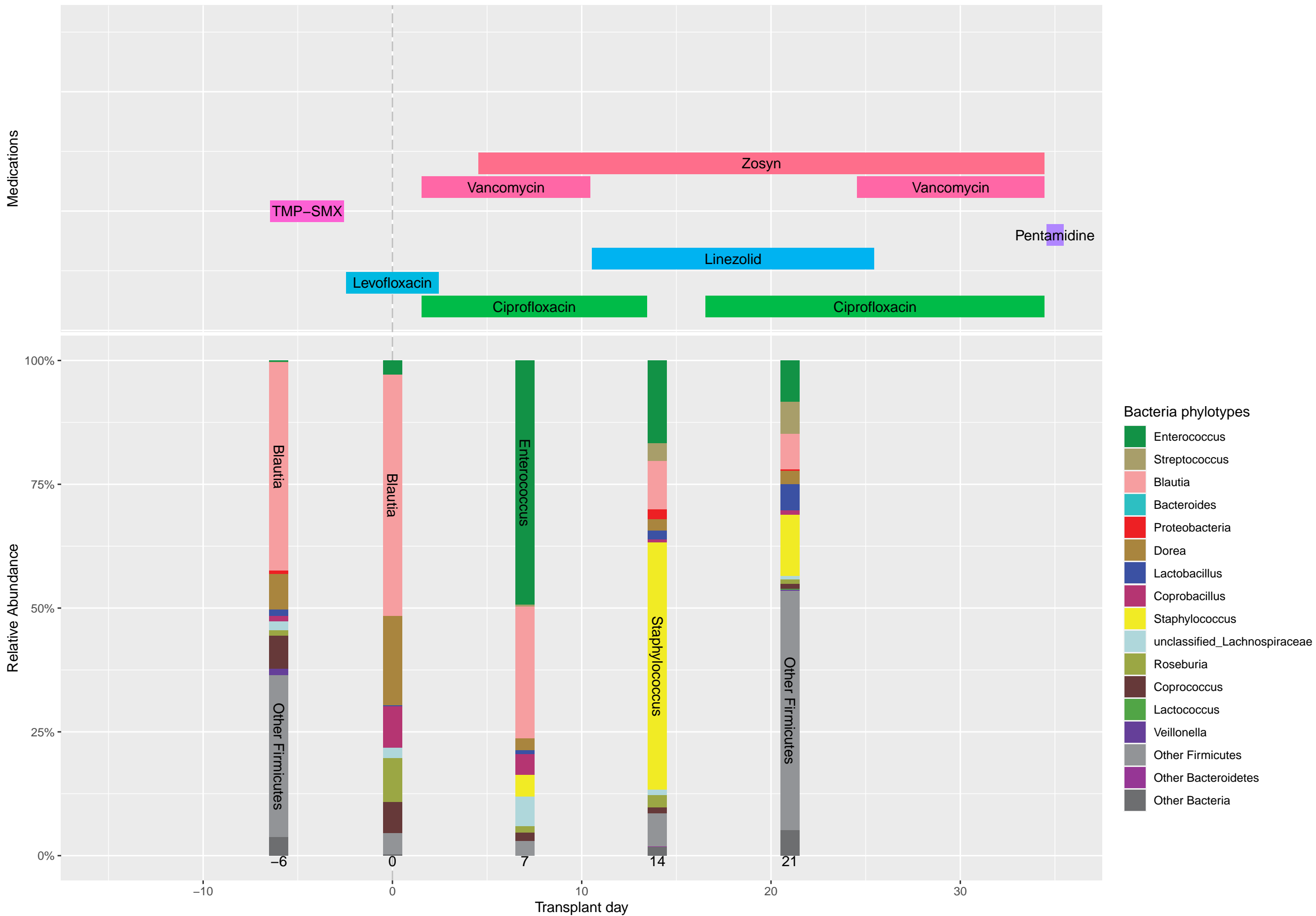
Medications

Relative Abundance

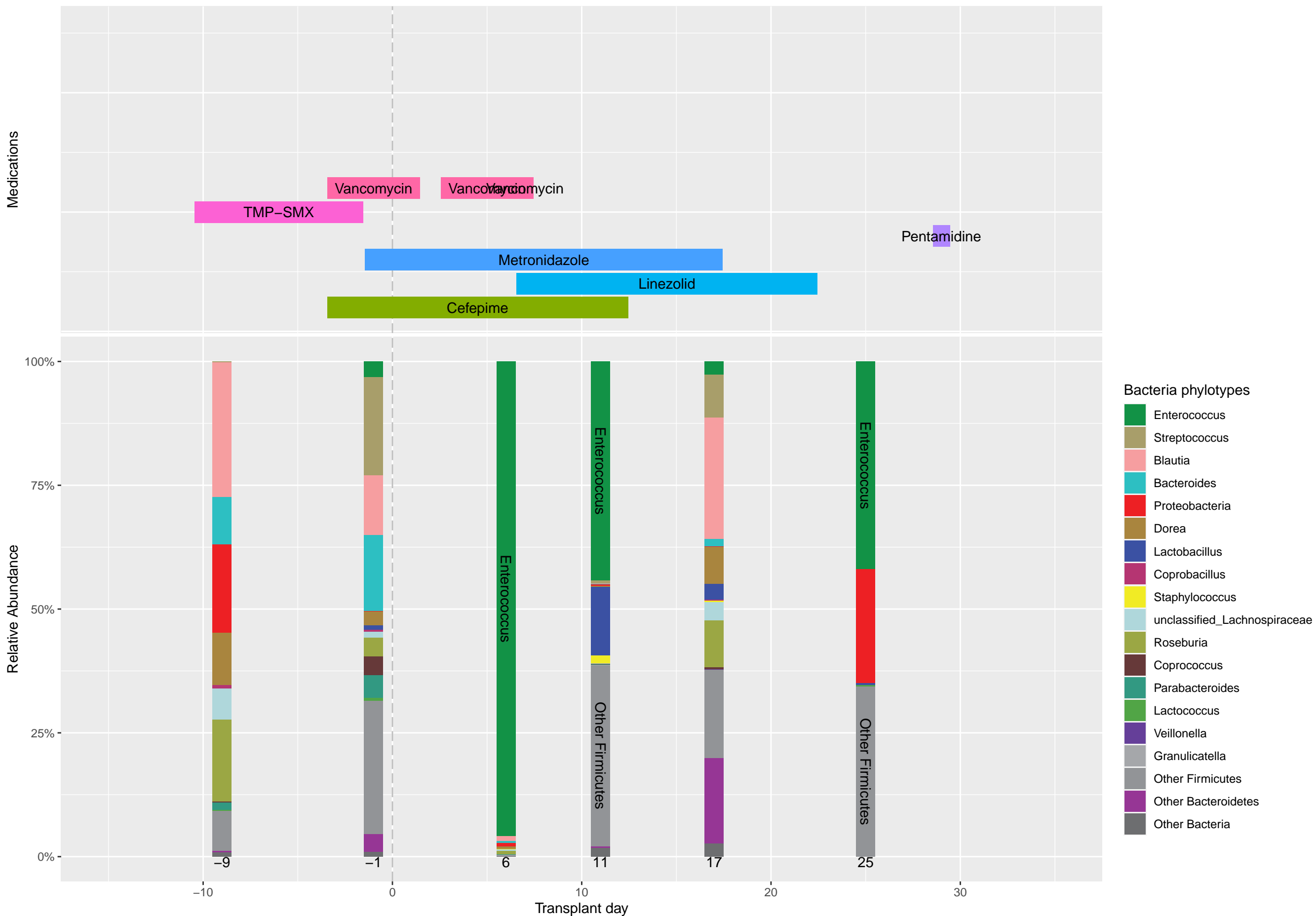
Transplant day



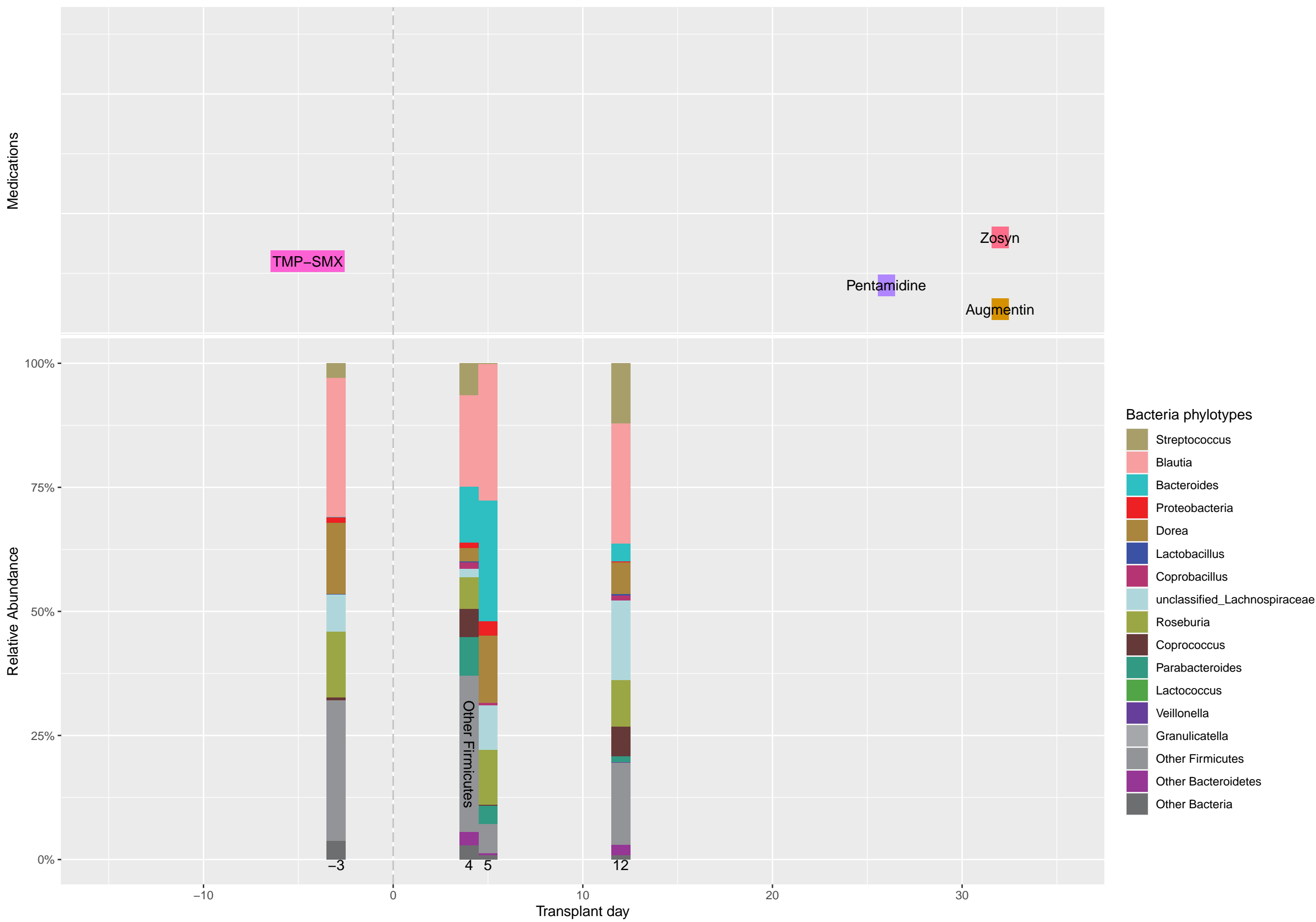
Patient 152 (Leukemia)



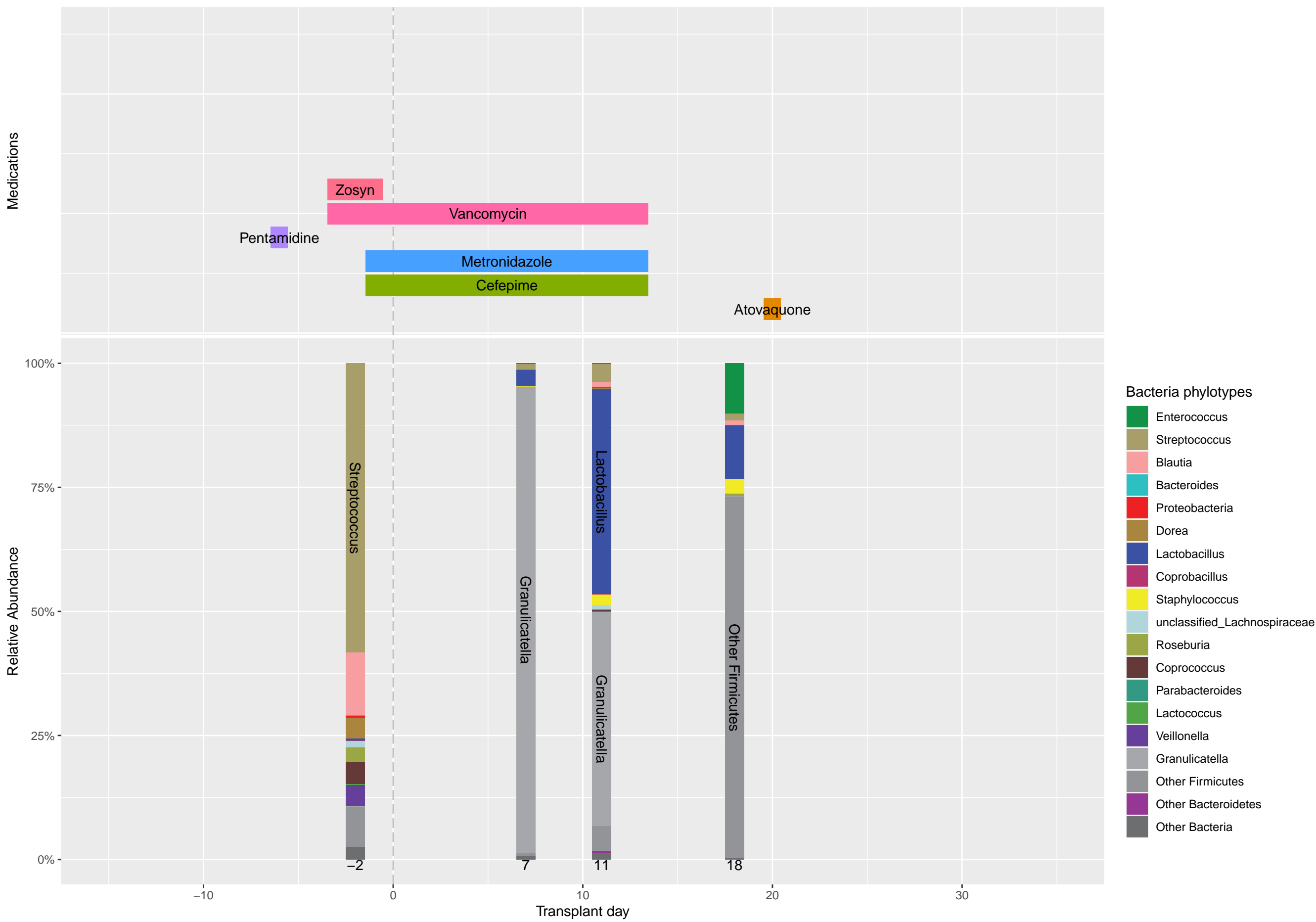
Patient 153 (Leukemia)



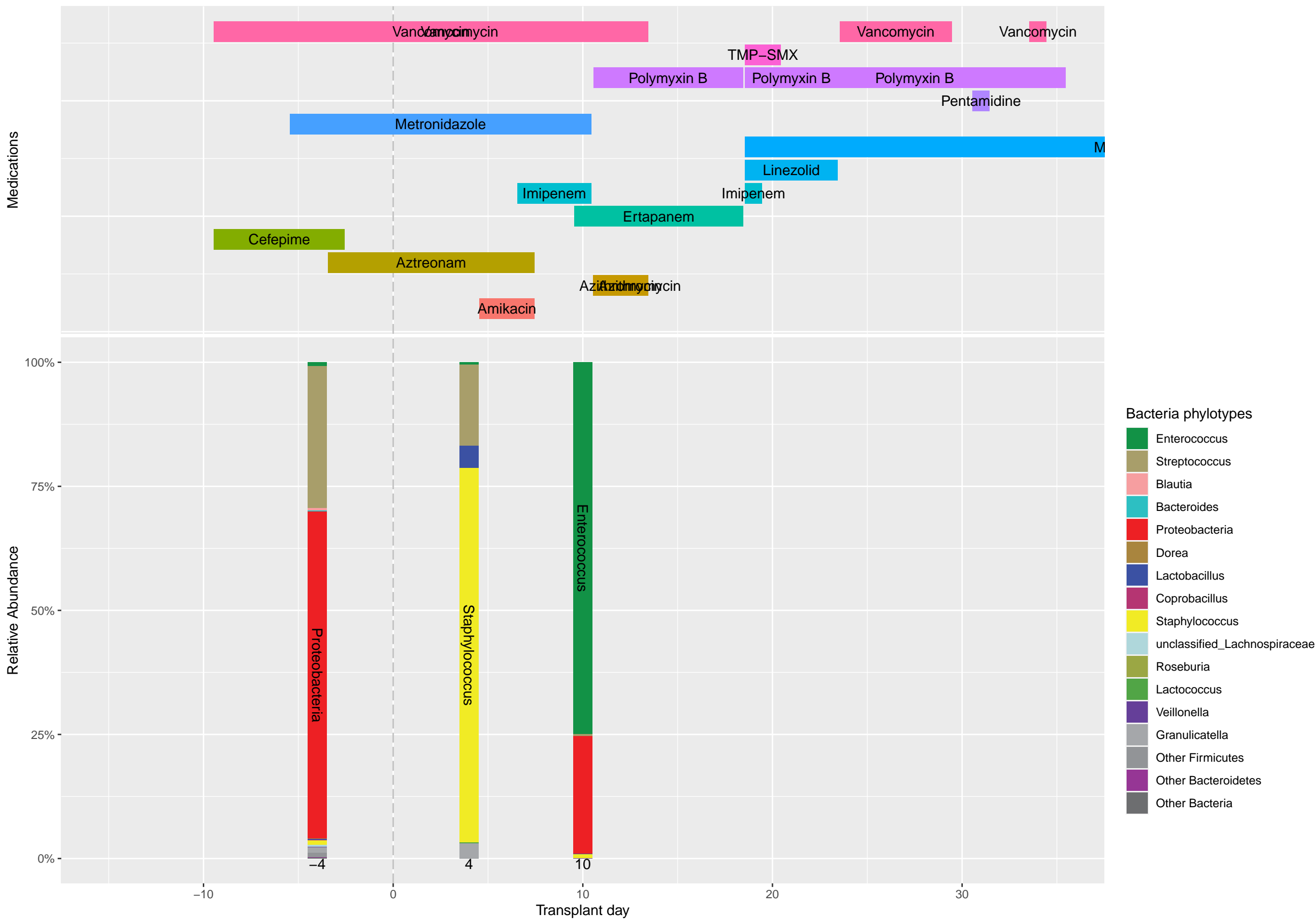
Patient 154 (Lymphoma)



Patient 155 (Lymphoma)

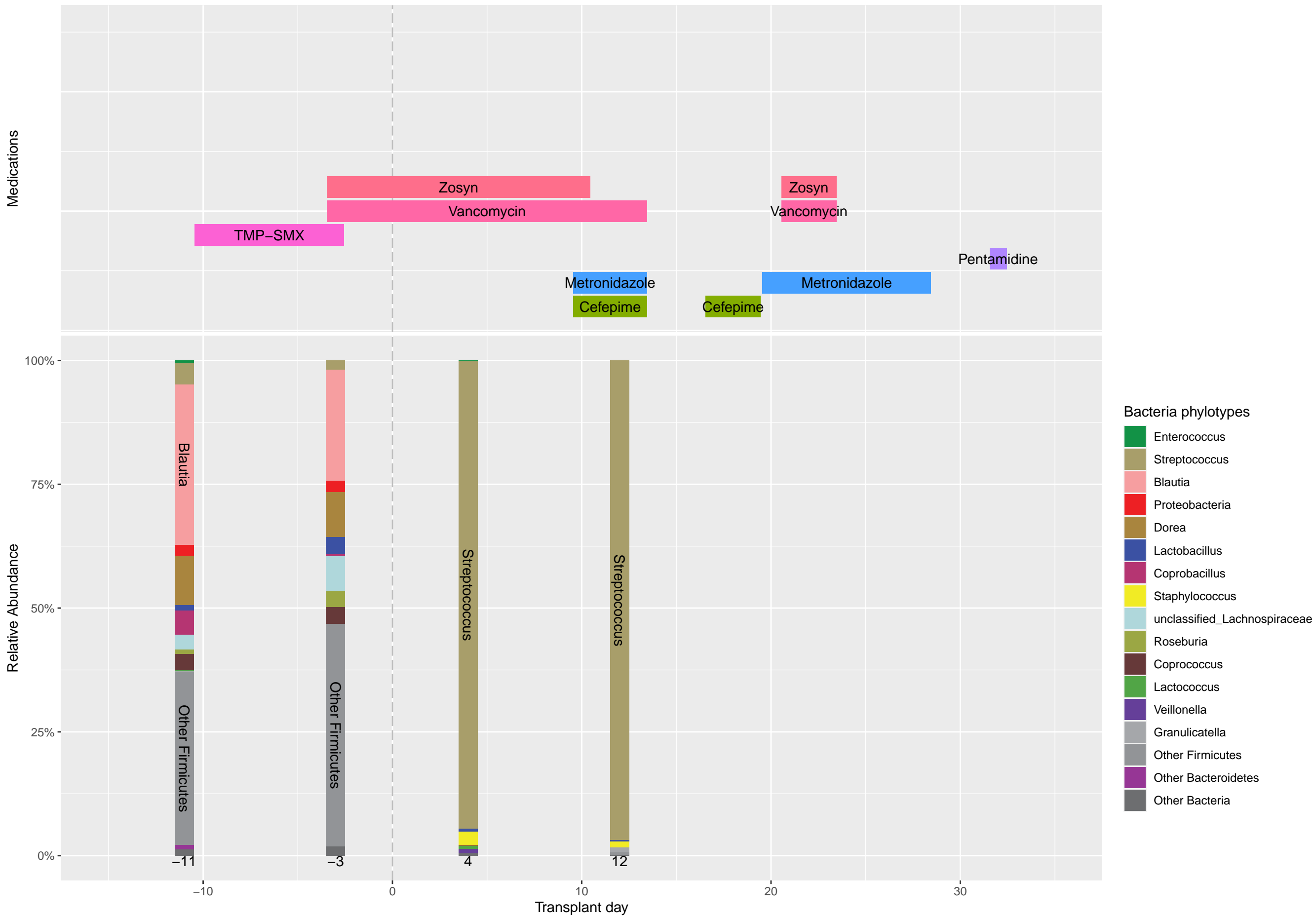


Patient 156 (Leukemia)

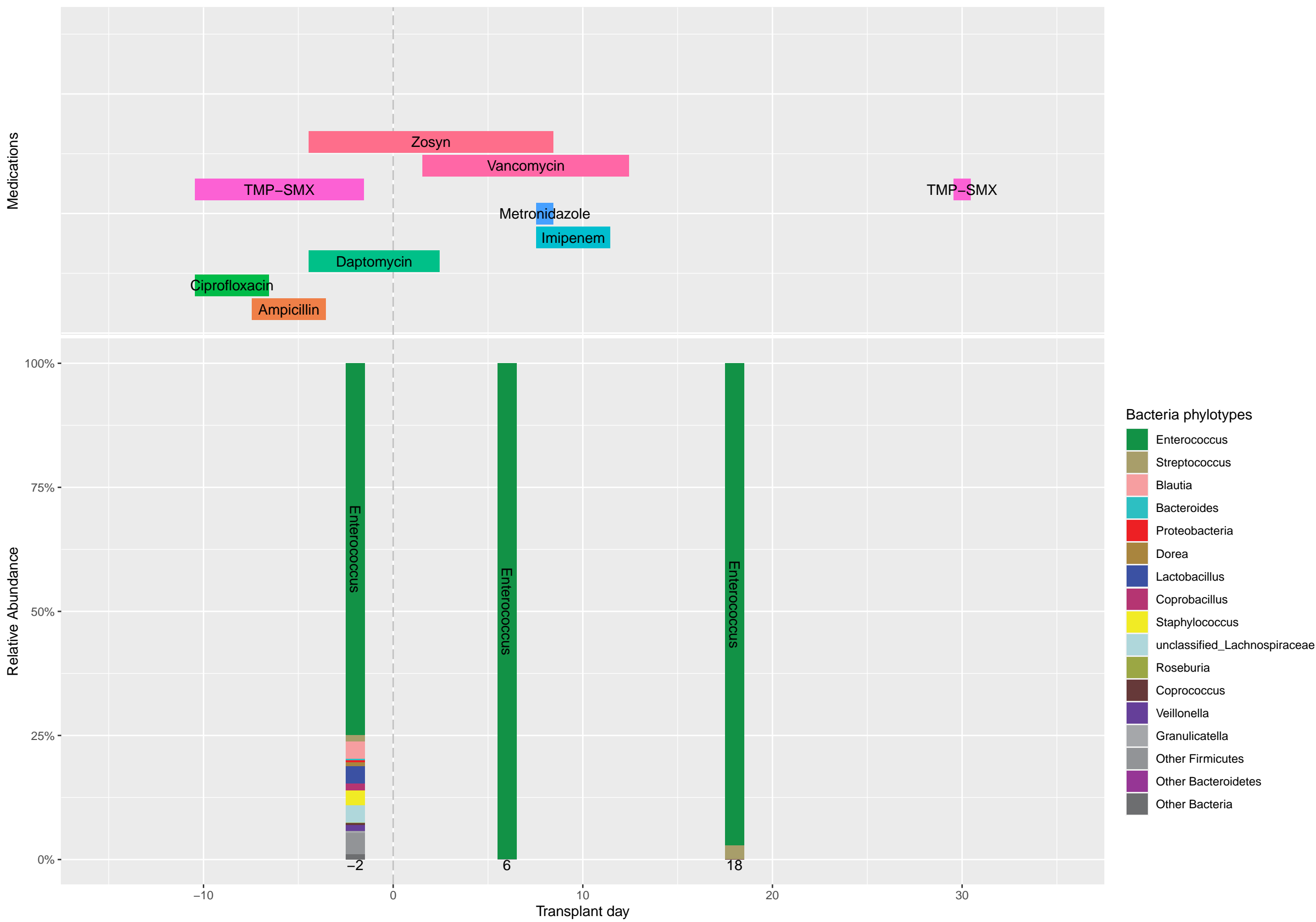




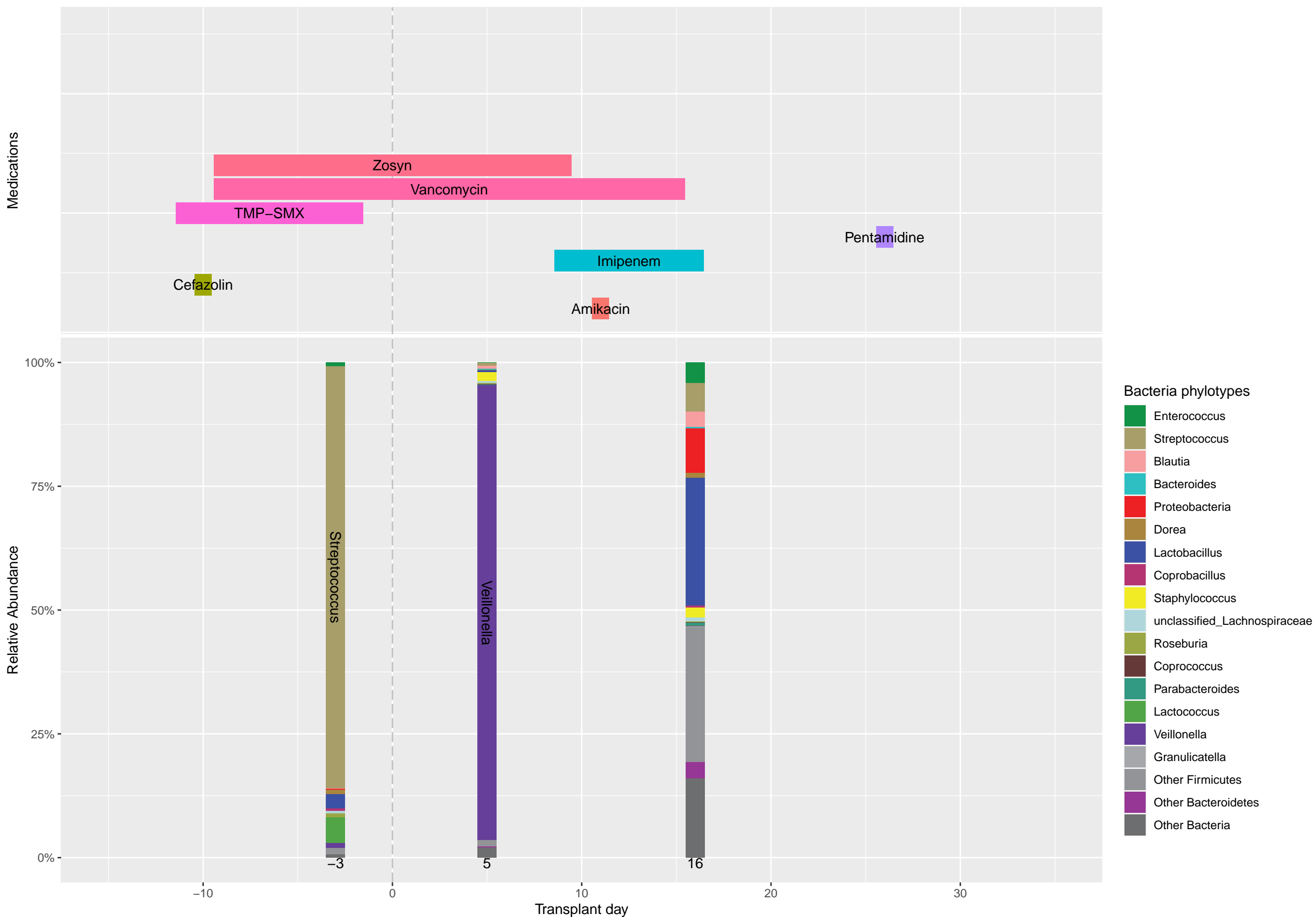
Patient 157 (Leukemia)



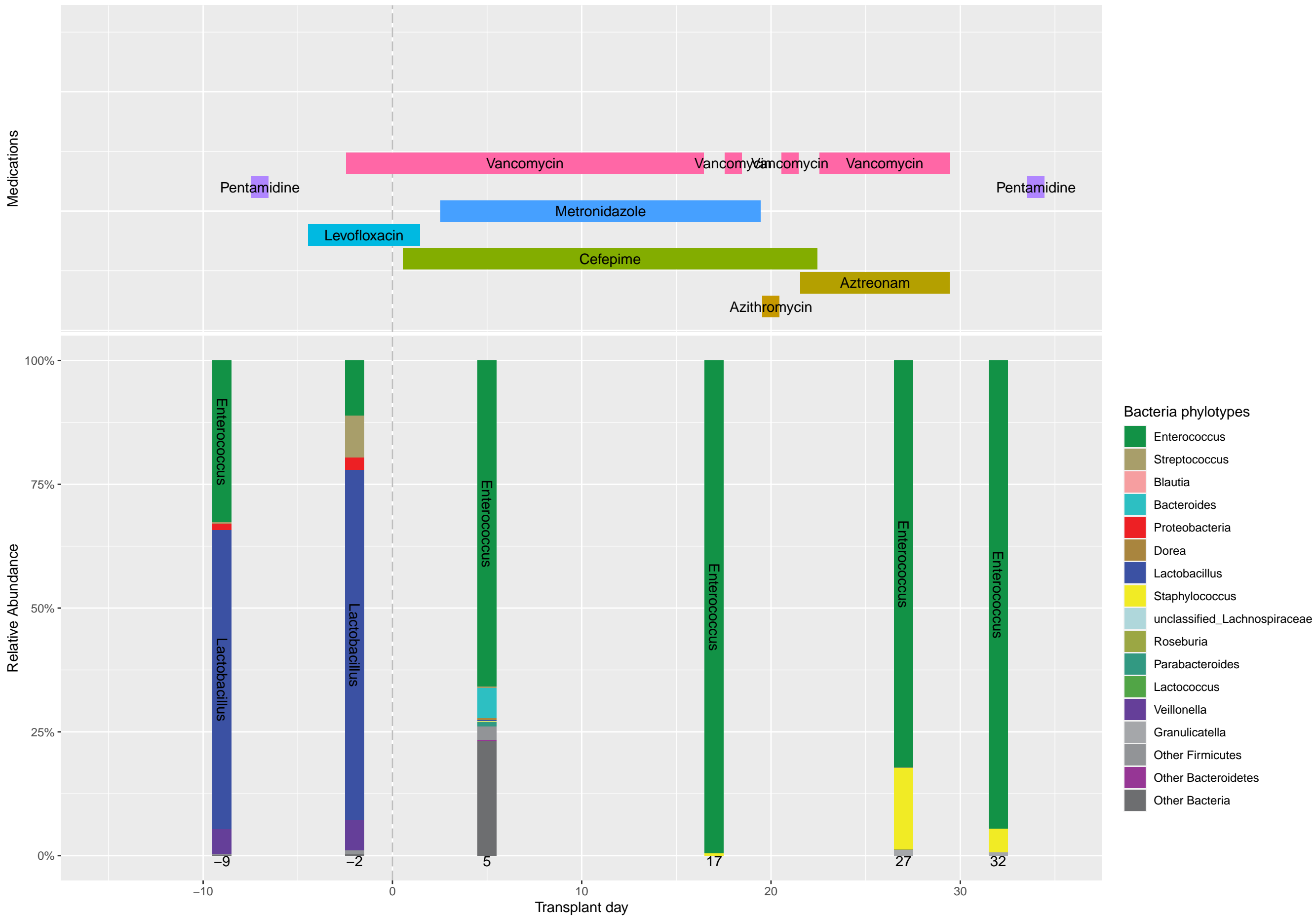
Patient 158 (Lymphoma)



Patient 161 (Myelodysplastic Syndrome)



Patient 162 (Leukemia)



Patient 164 (Leukemia)

Medications

Relative Abundance

100%  
75%  
50%  
25%  
0%

-10 0 10 20 30

Transplant day

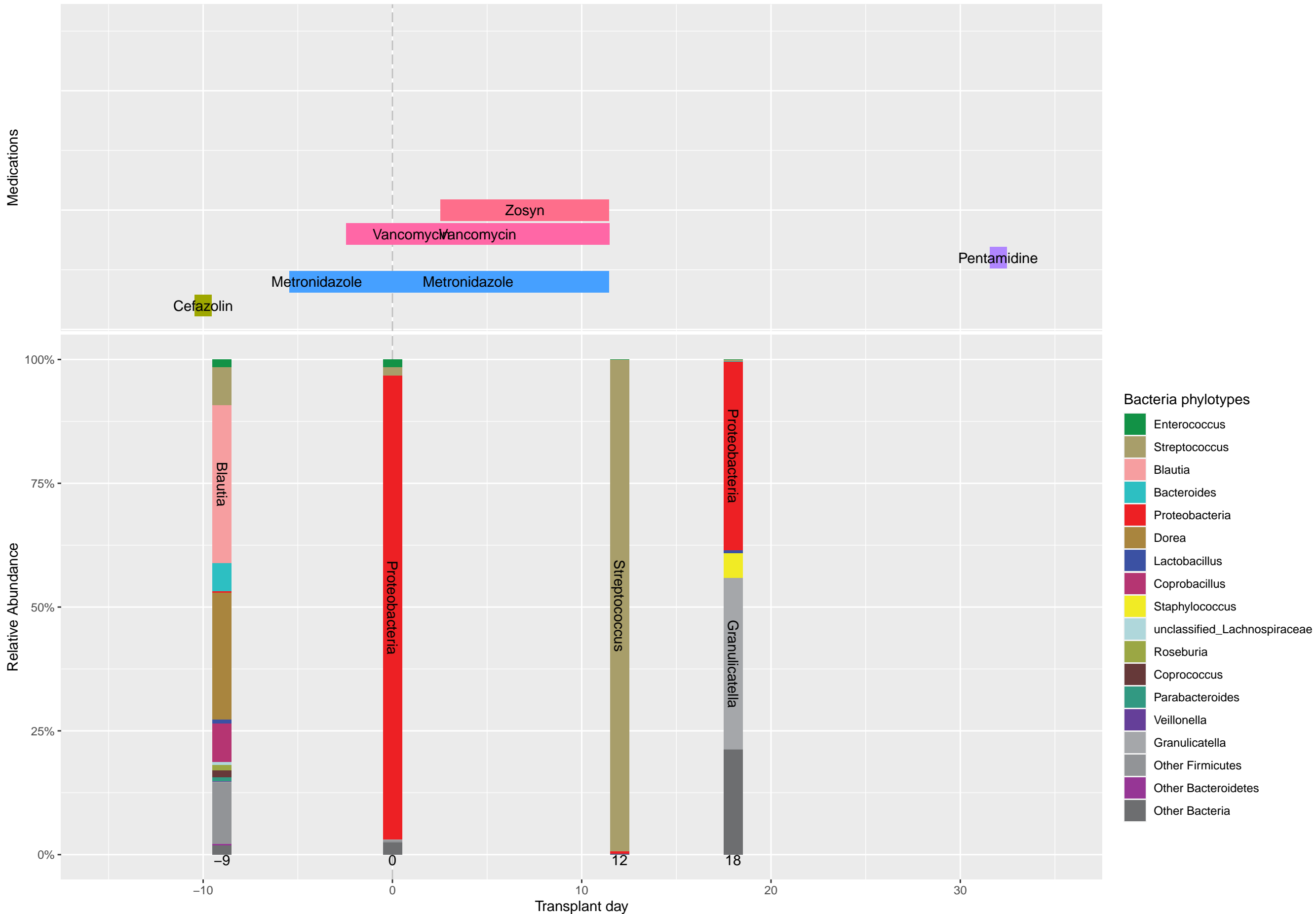
Vancomycin  
Vancomycin  
Metronidazole  
Imipenem  
Cefepime  
Atovaquone  
Metronidazole  
Metronidazole

Streptococcus

Streptococcus

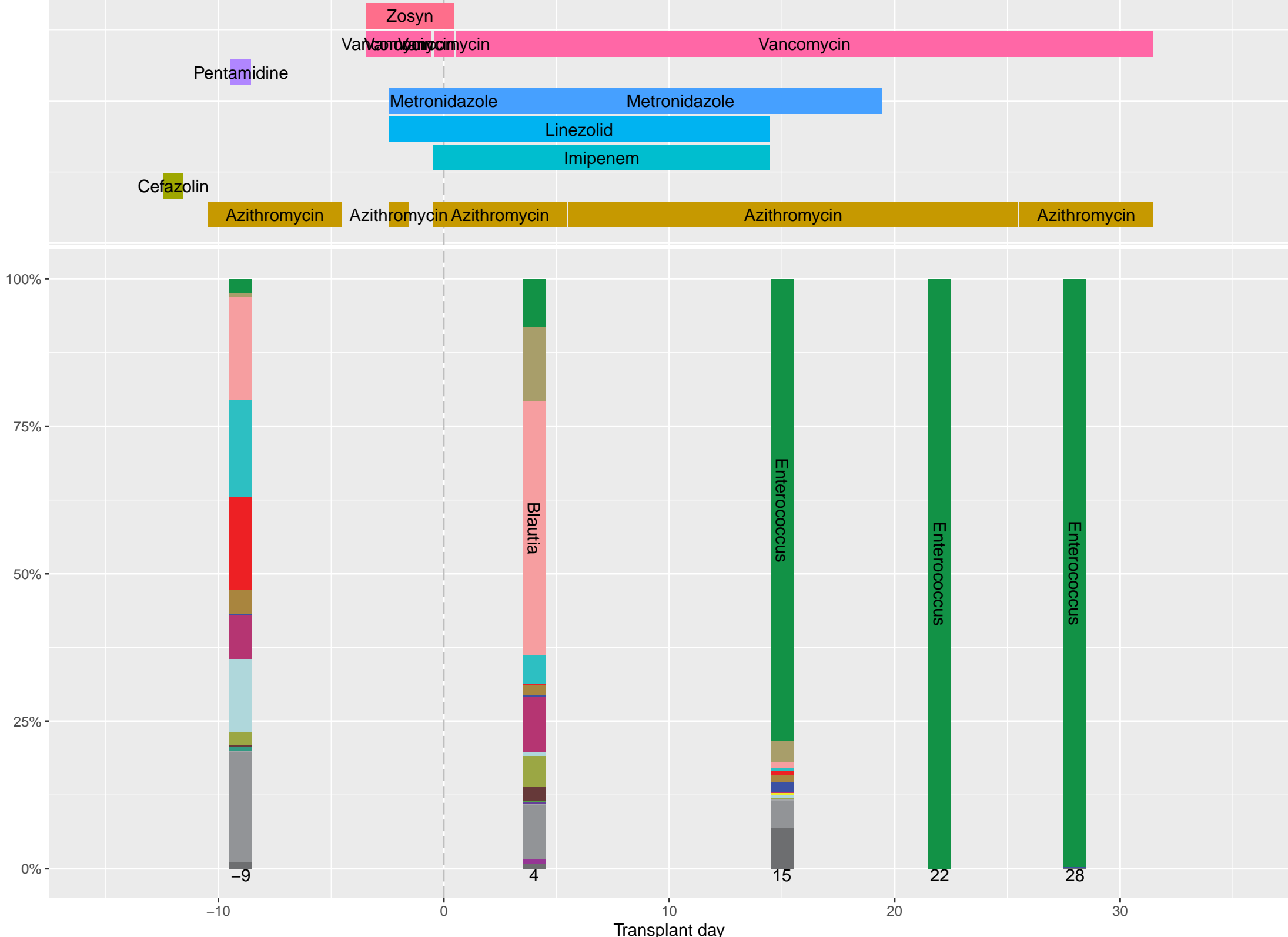
- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Coprobacillus
  - Staphylococcus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coprococcus
  - Other Firmicutes
  - Other Bacteria

Patient 166 (Lymphoma)



Patient 167 (Leukemia)

Medications



- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Lactobacillus
  - Coprobacillus
  - Staphylococcus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coprococcus
  - Parabacteroides
  - Lactococcus
  - Veillonella
  - Granulicatella
  - Other Firmicutes
  - Other Bacteroidetes
  - Other Bacteria

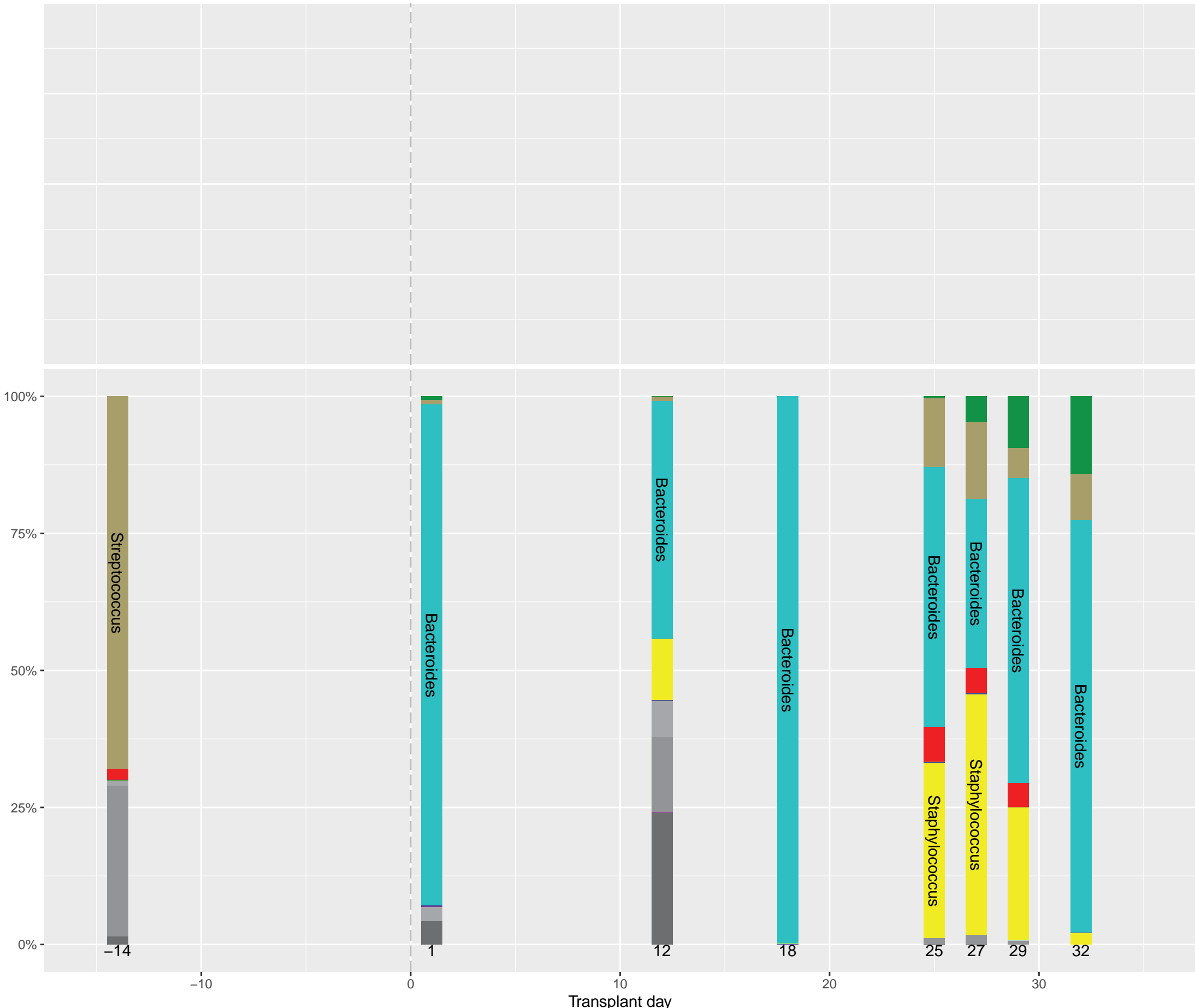
Patient 172 (Lymphoma)

Medications

Relative Abundance

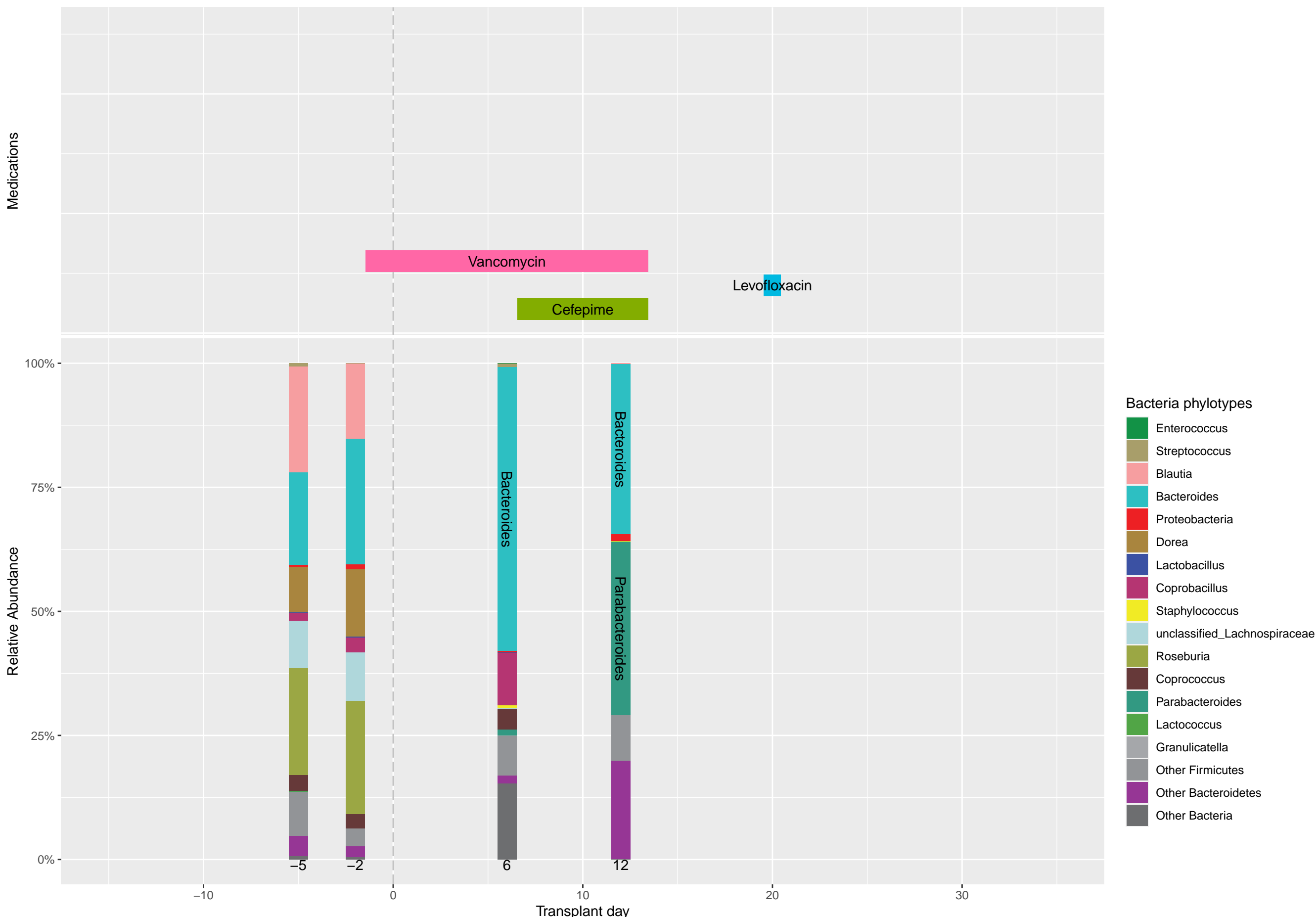
Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Parabacteroides
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

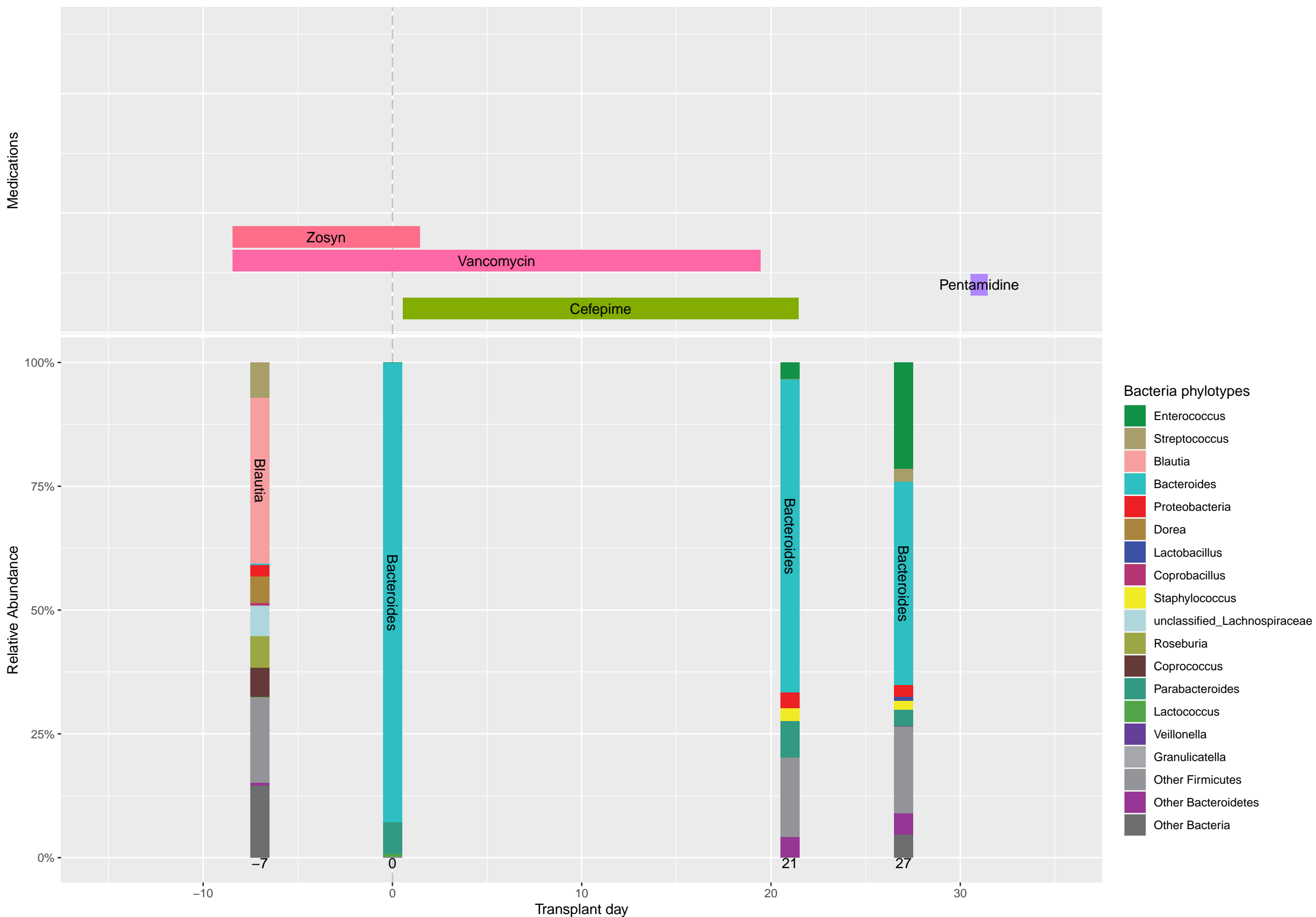




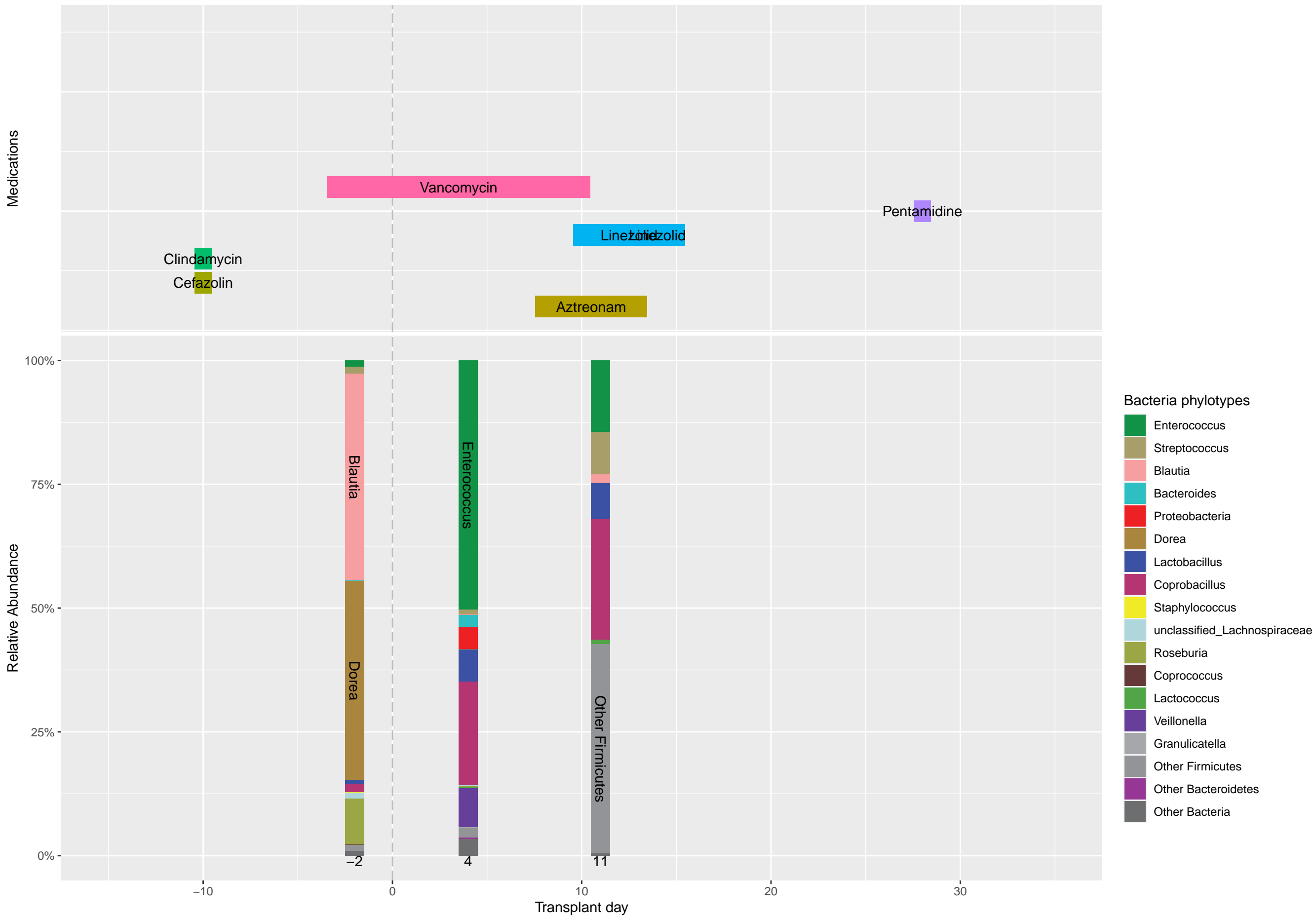
Patient 173 (Myelodysplastic Syndrome)



Patient 175 (Myelodysplastic Syndrome)



Patient 177 (Leukemia)



Patient 178 (Other)

Medications

100%

75%

50%

25%

0%

Relative Abundance

TMP-SMX

Vancomycin

Zosyn

Vancomycin

Pentamidine

Azithromycin

-10

-3

0

4

11

18

21

25

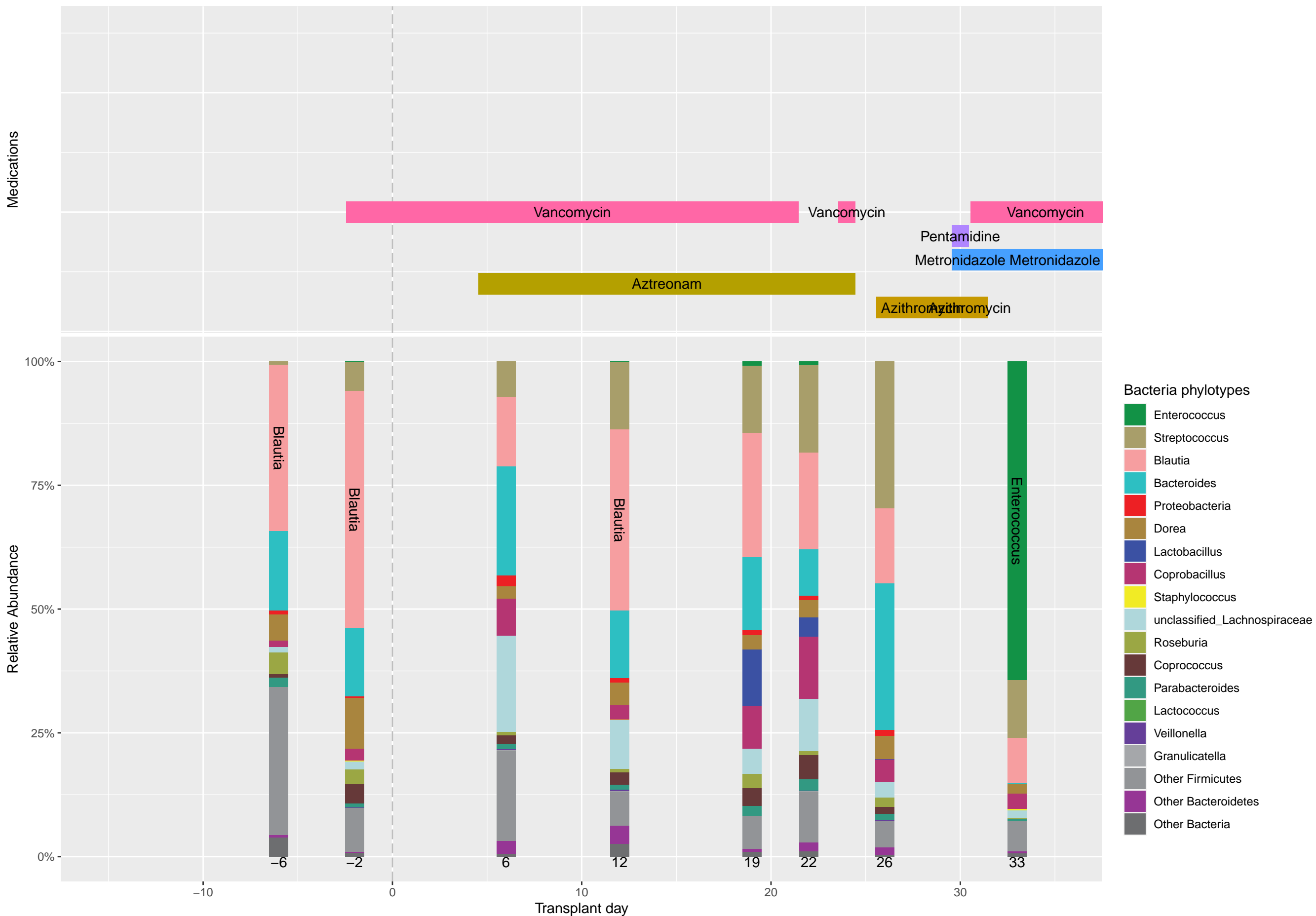
30

Transplant day

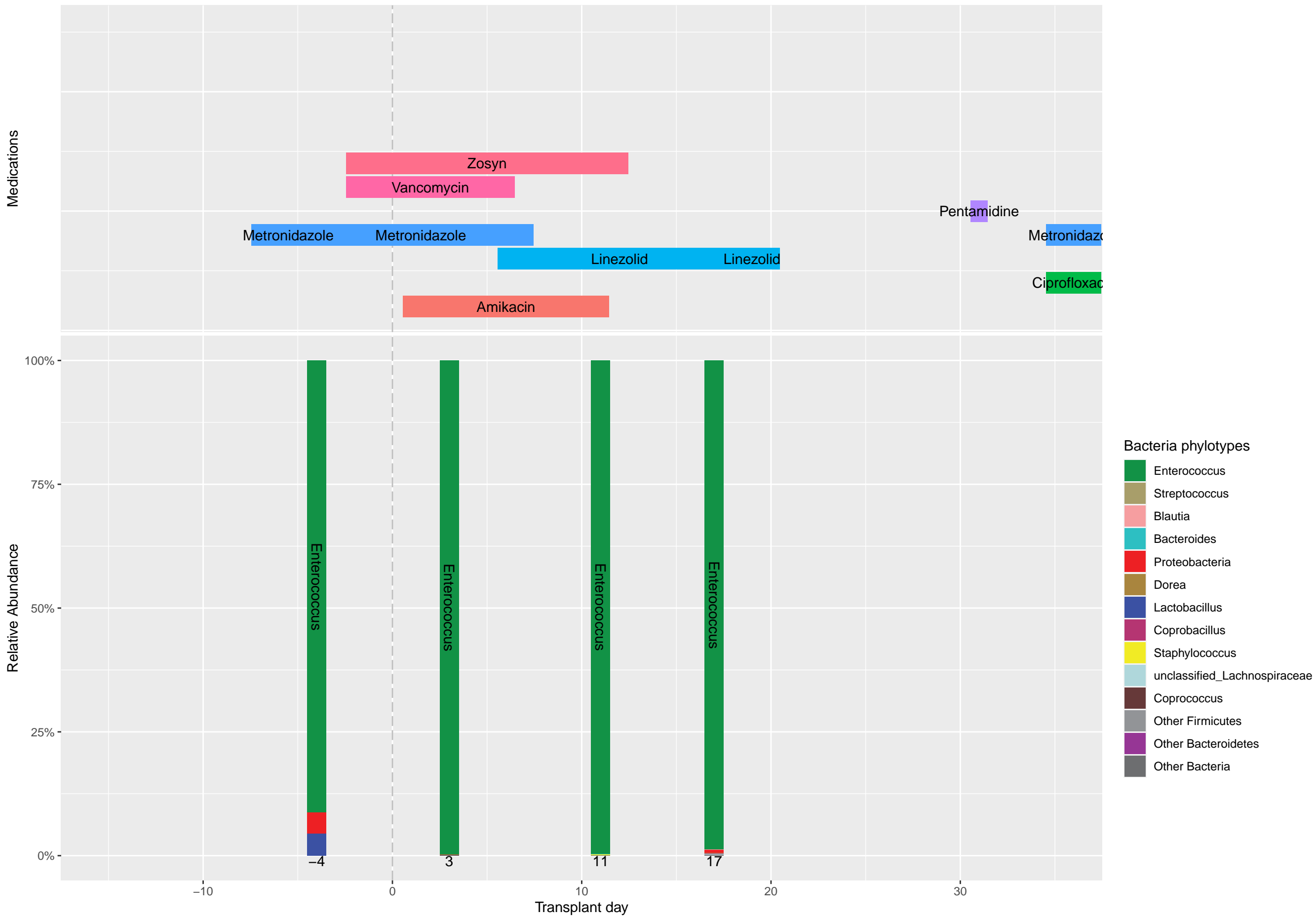
Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

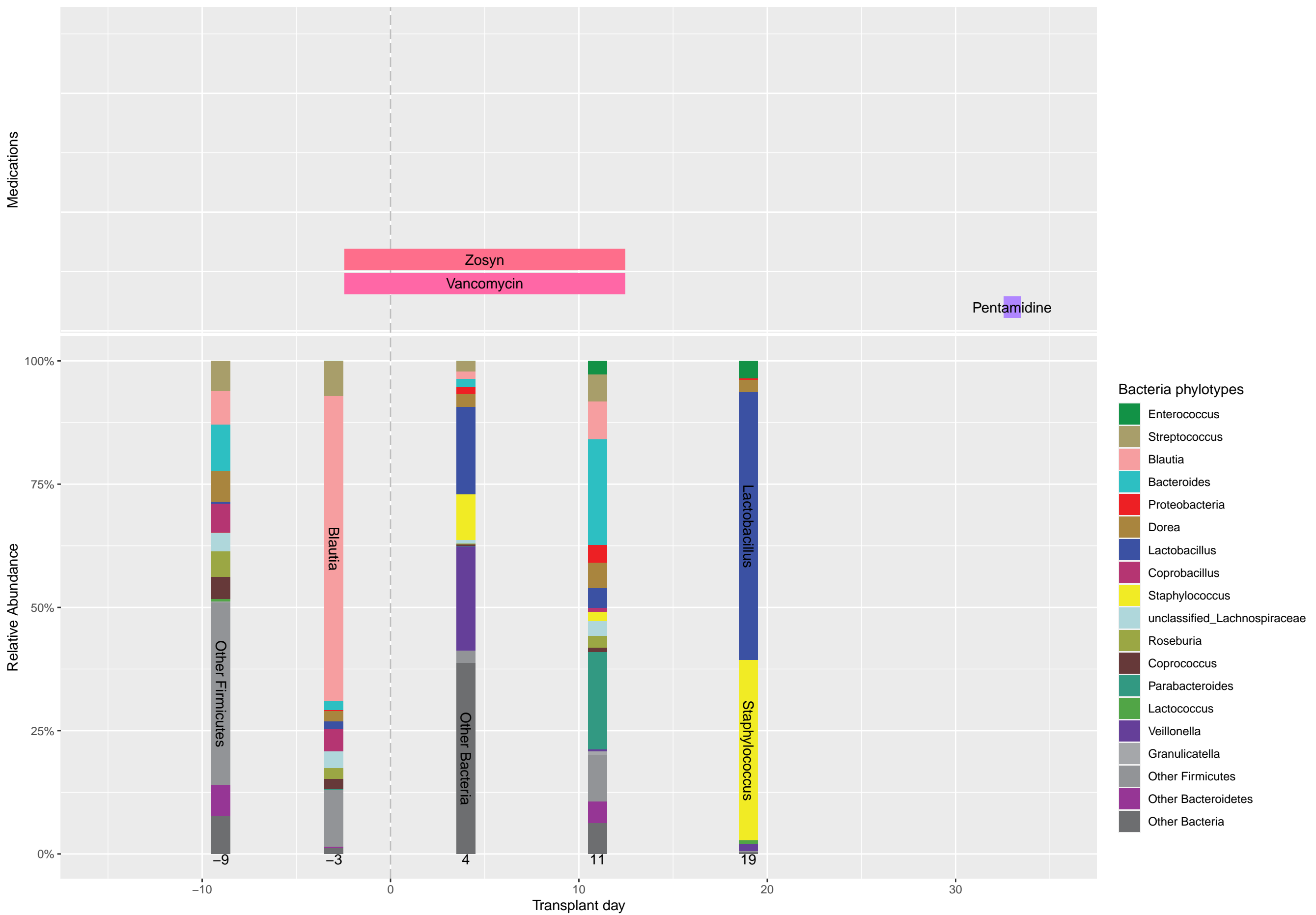
Patient 179 (Leukemia)



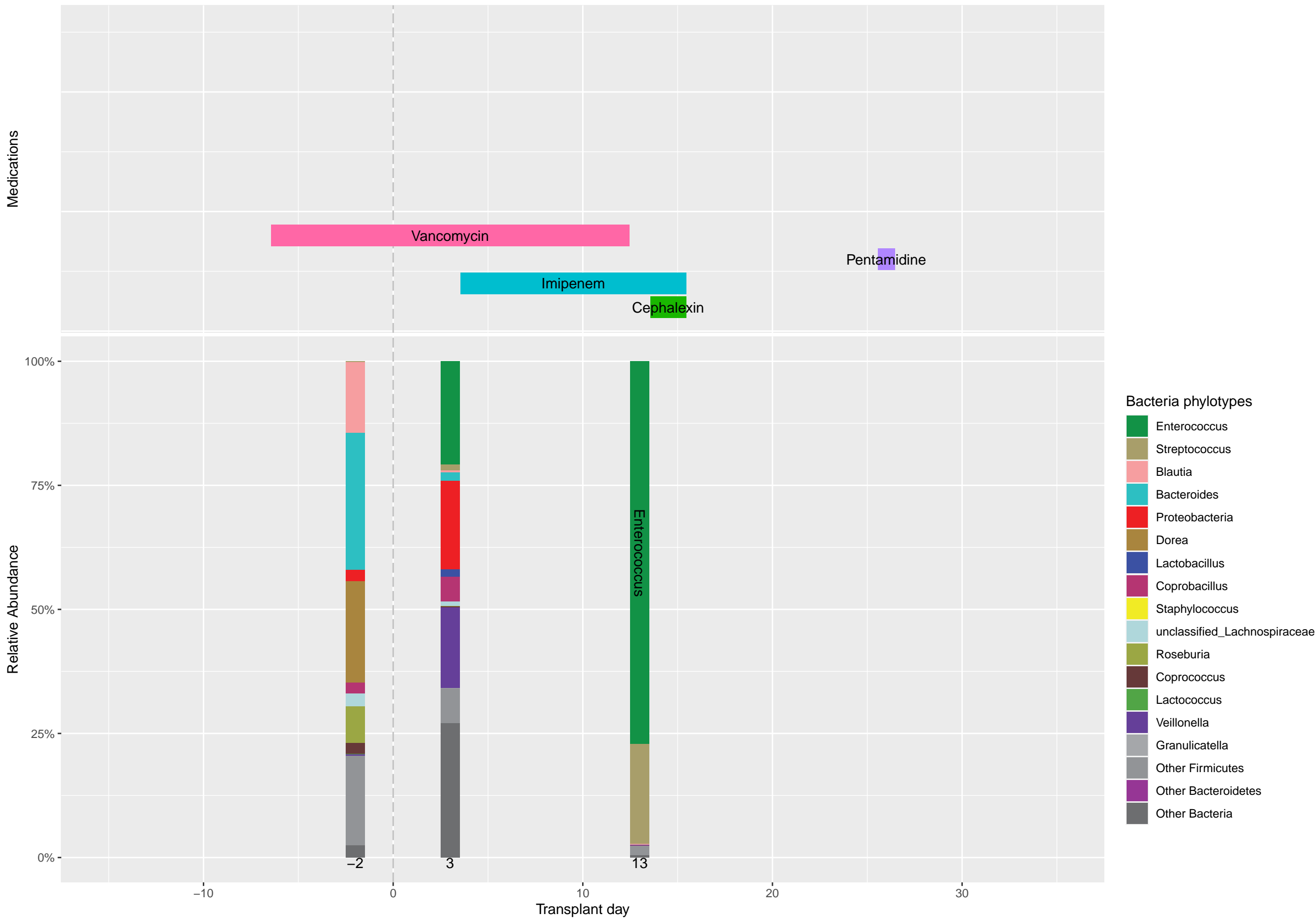
Patient 182 (Leukemia)



### Patient 183 (Leukemia)

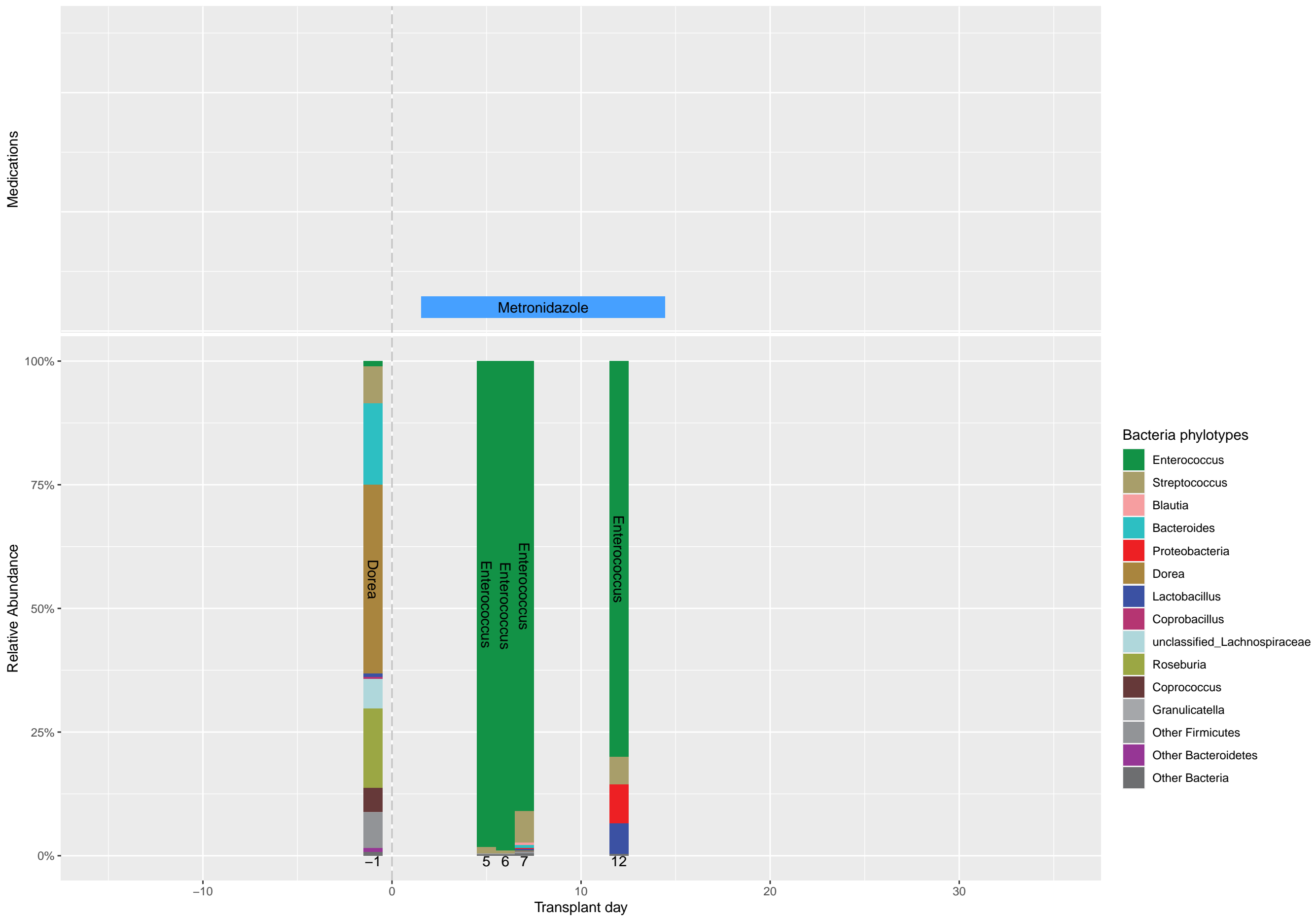


Patient 184 (Leukemia)

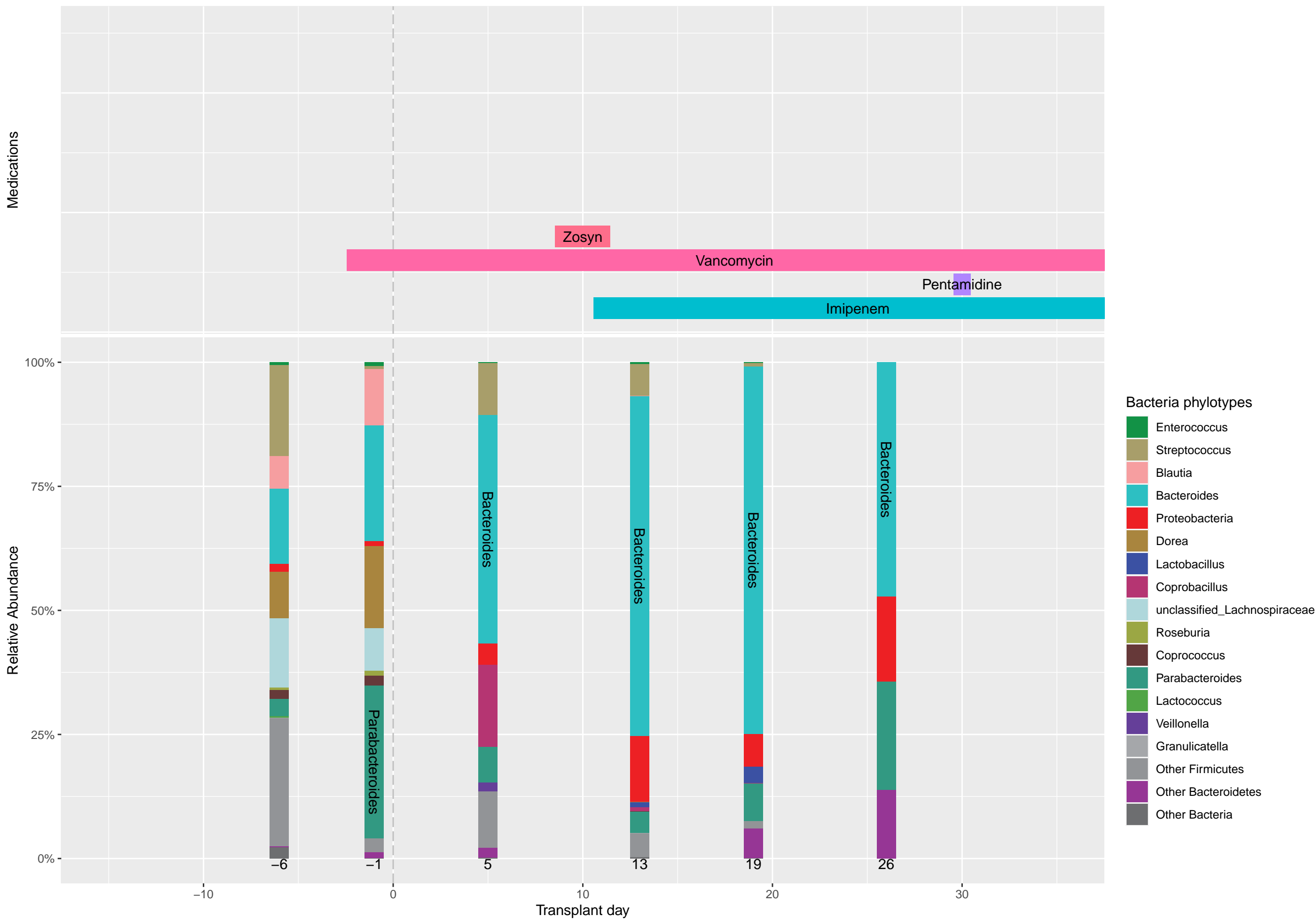




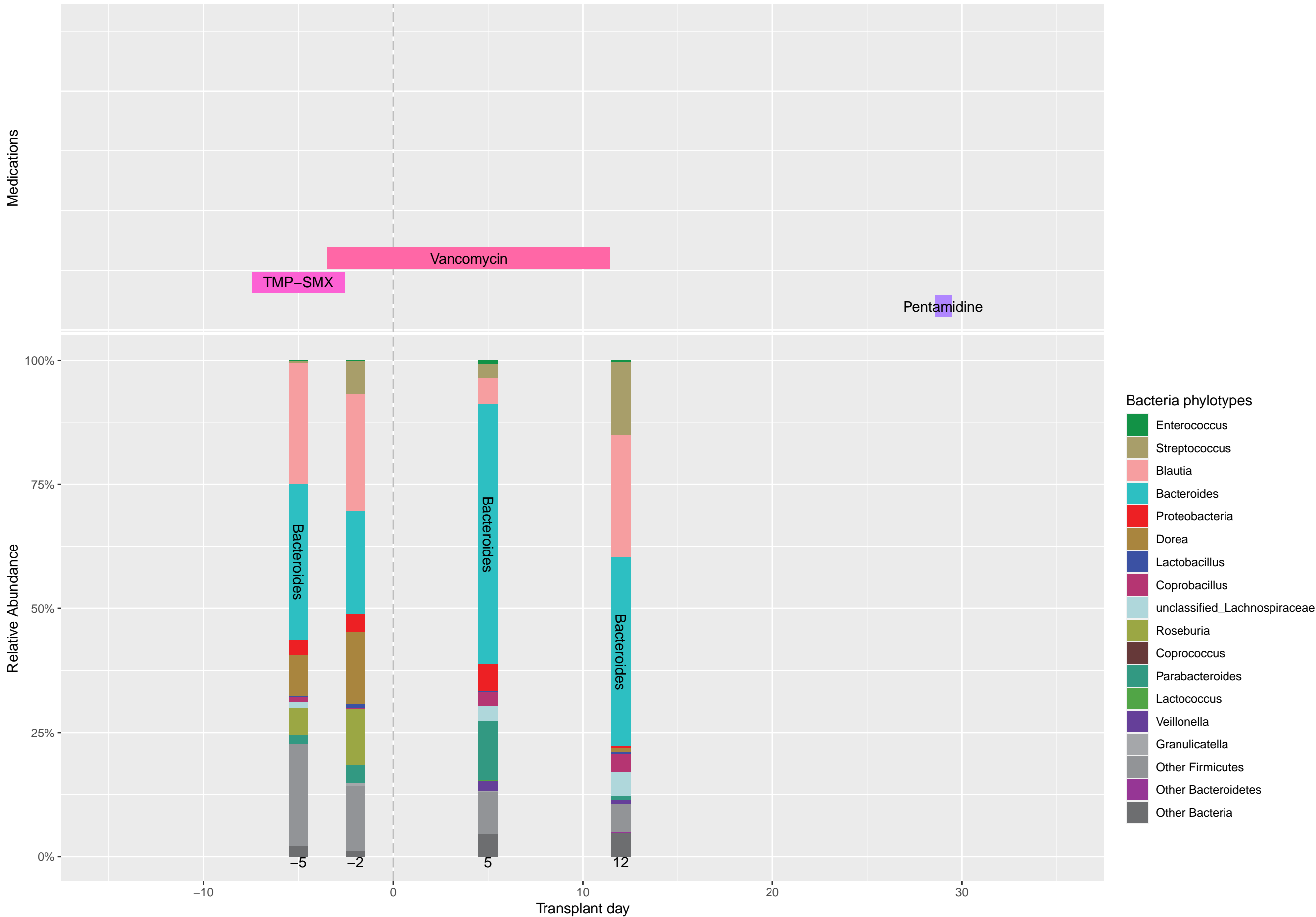
### Patient 186 (Lymphoma)



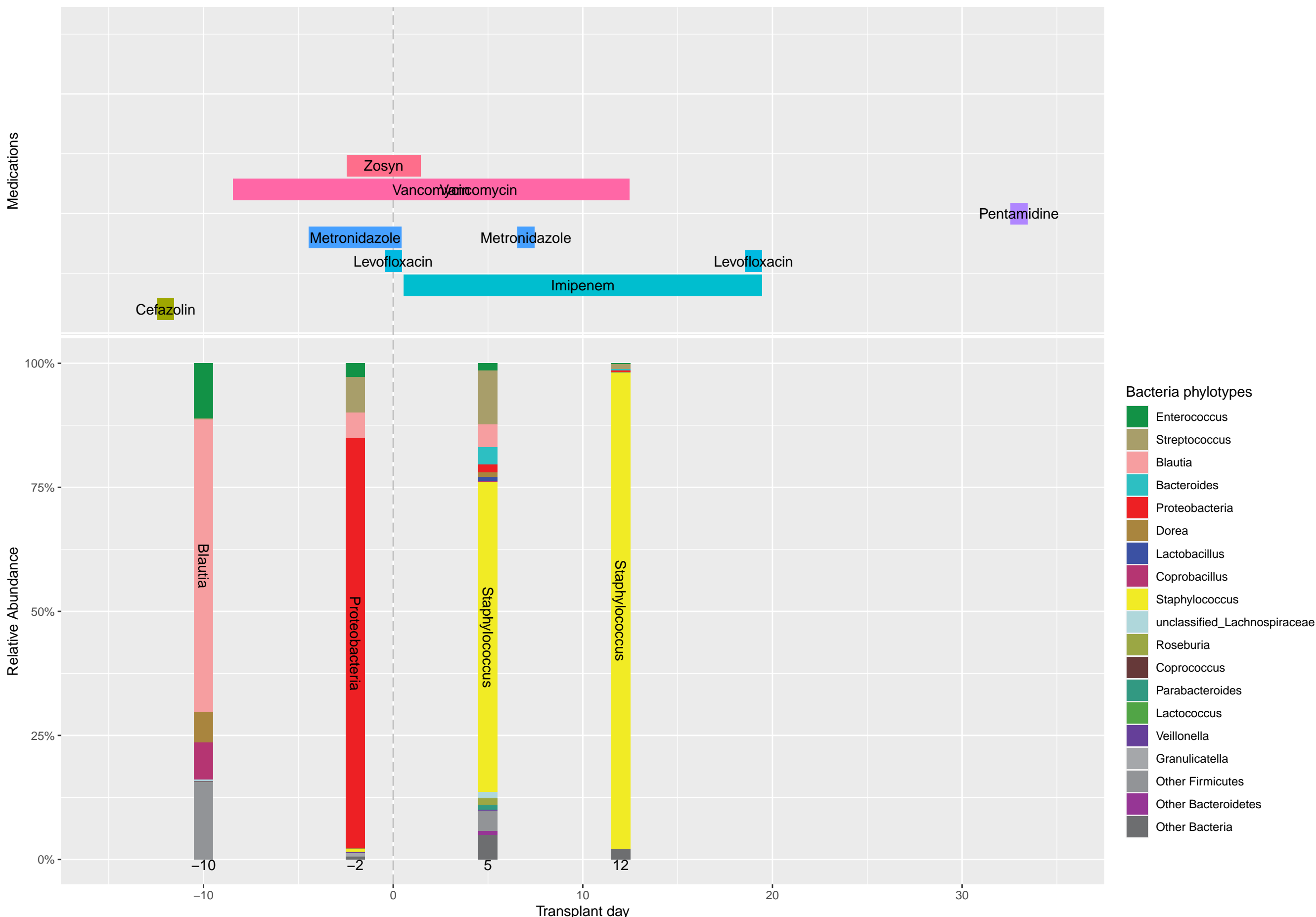
Patient 188 (Leukemia)



Patient 189 (Leukemia)



Patient 190 (Myelodysplastic Syndrome)



Patient 191 (Leukemia)

Medications

Relative Abundance

100%  
75%  
50%  
25%  
0%

-10      0      10      20      30

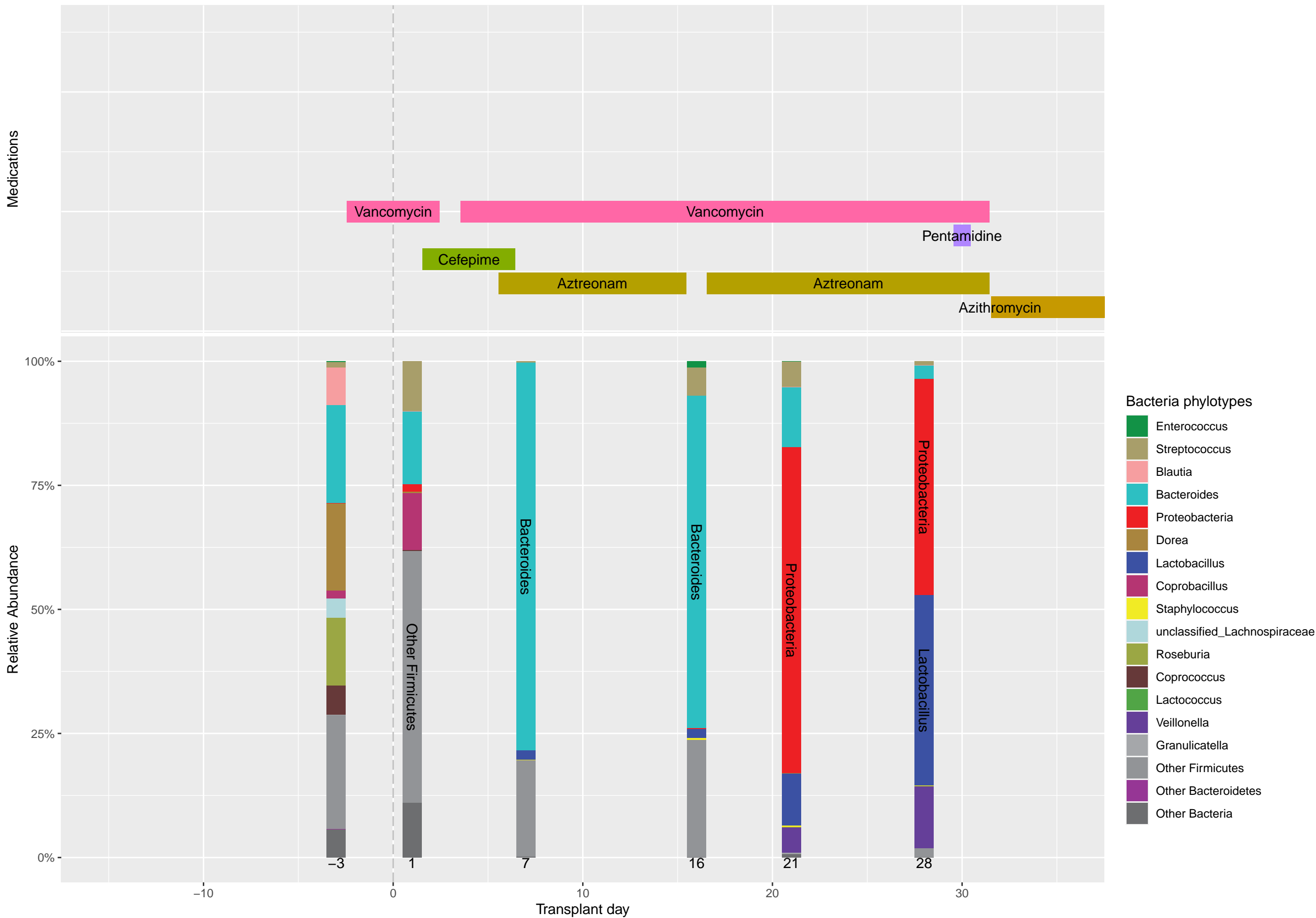
Transplant day

Zosyn  
Vancomycin  
Vancomycin  
Imipenem  
Vancomycin

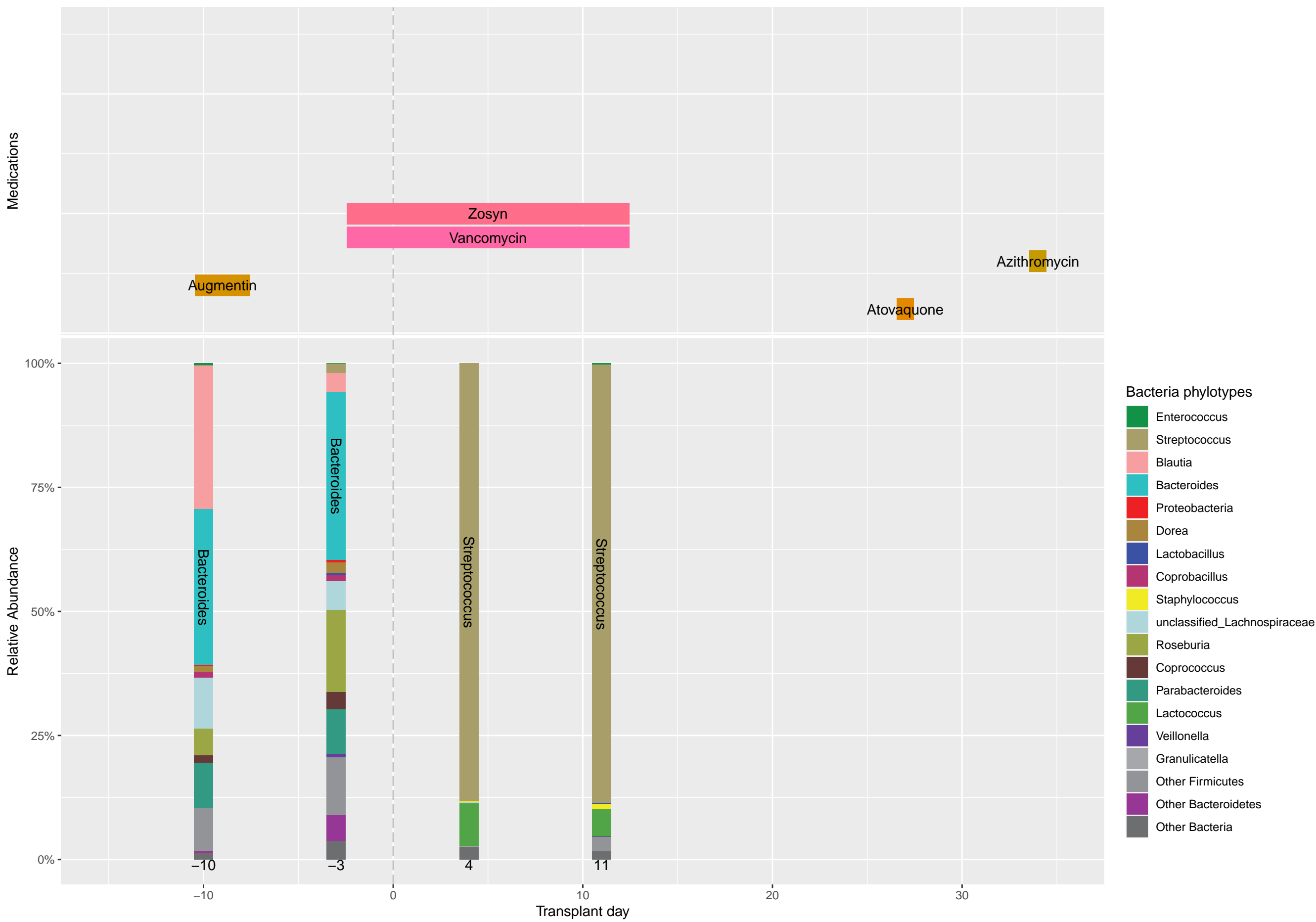
Blautia  
Dorea  
Proteobacteria  
Lactobacillus  
Veillonella  
Proteobacteria  
Lactobacillus  
Lactobacillus

- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Lactobacillus
  - Coprobacillus
  - Staphylococcus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coprococcus
  - Lactococcus
  - Veillonella
  - Granulicatella
  - Other Firmicutes
  - Other Bacteroidetes
  - Other Bacteria

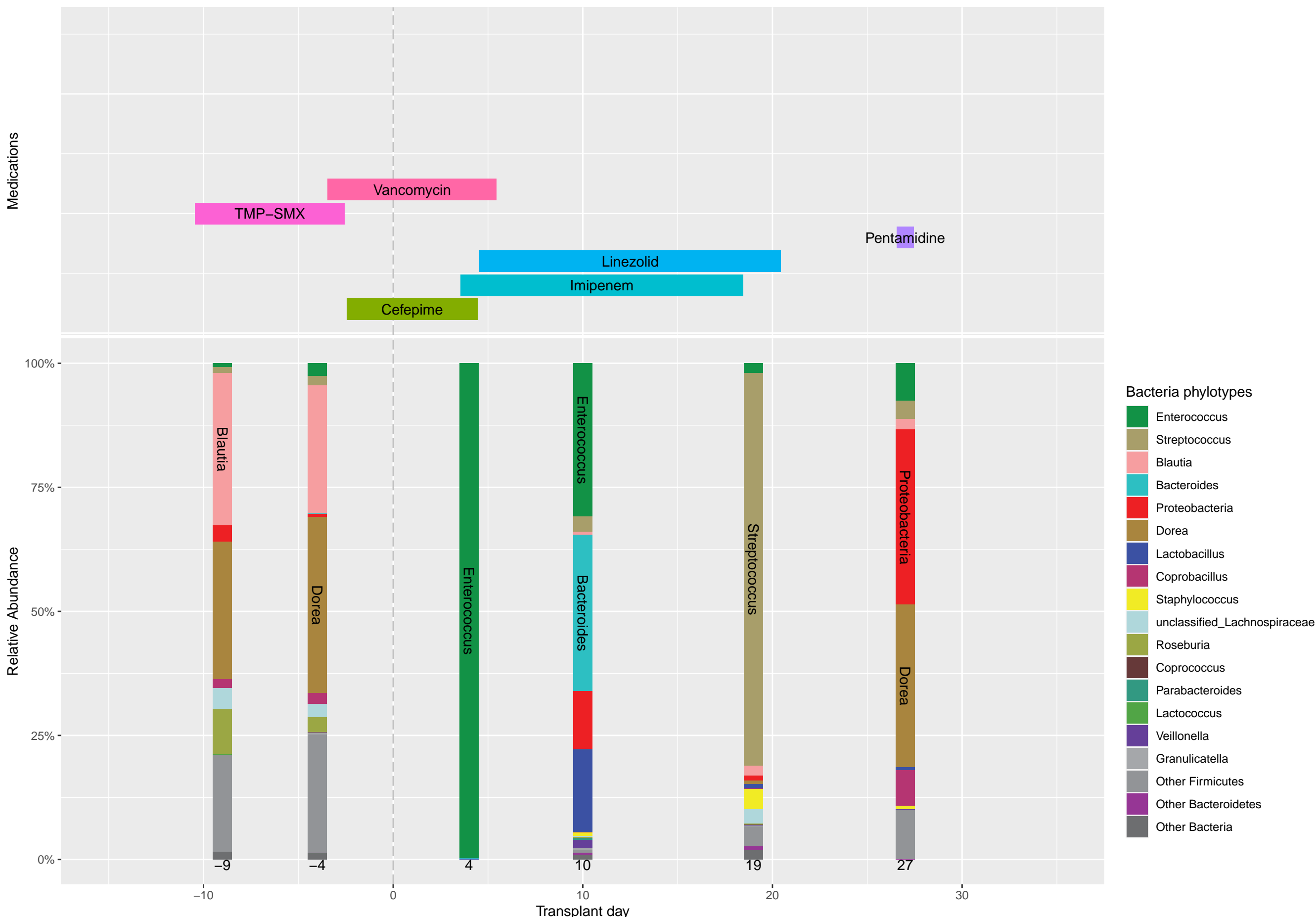
Patient 192 (Leukemia)



Patient 193 (Multiple Myeloma)

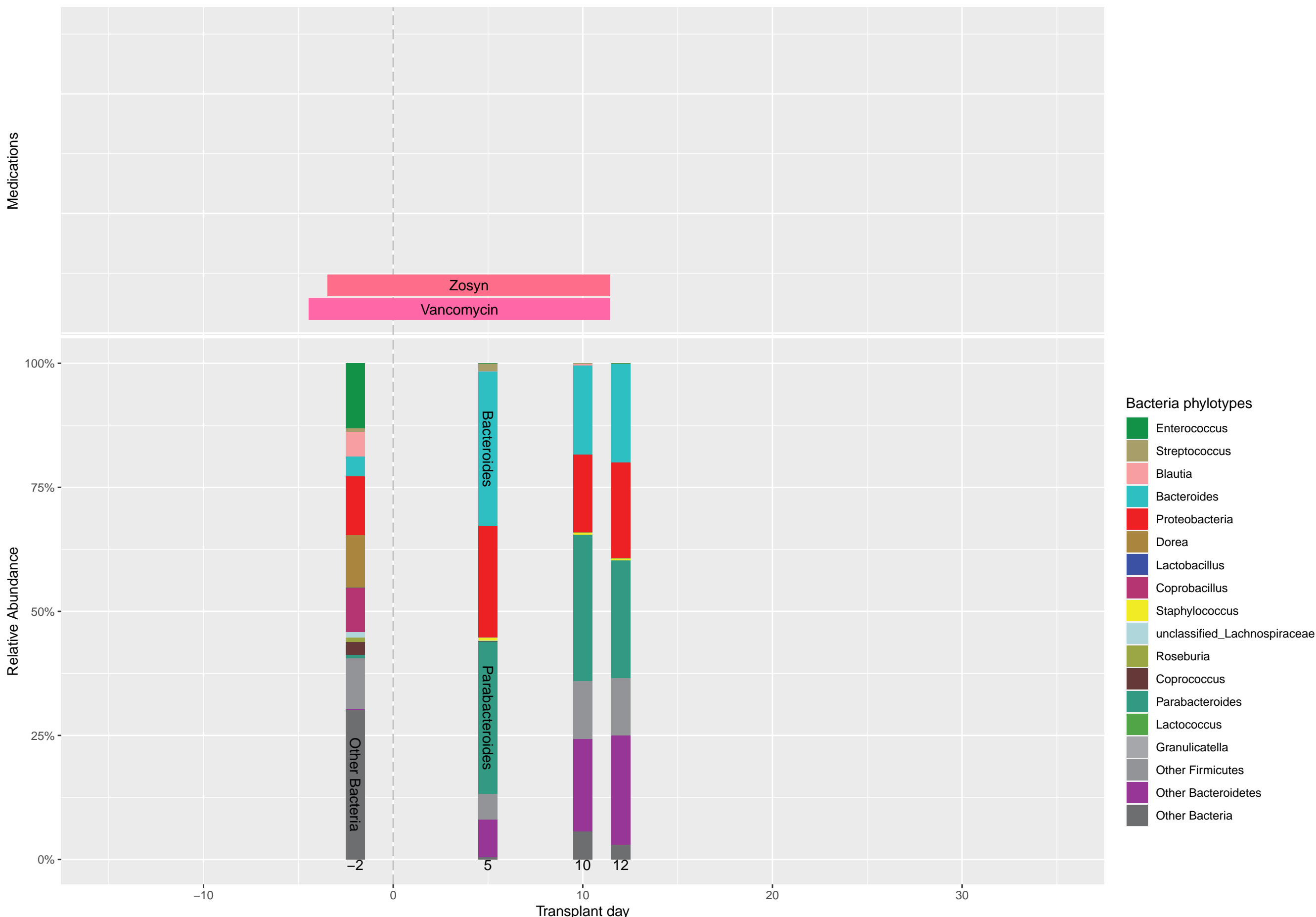


Patient 194 (Leukemia)

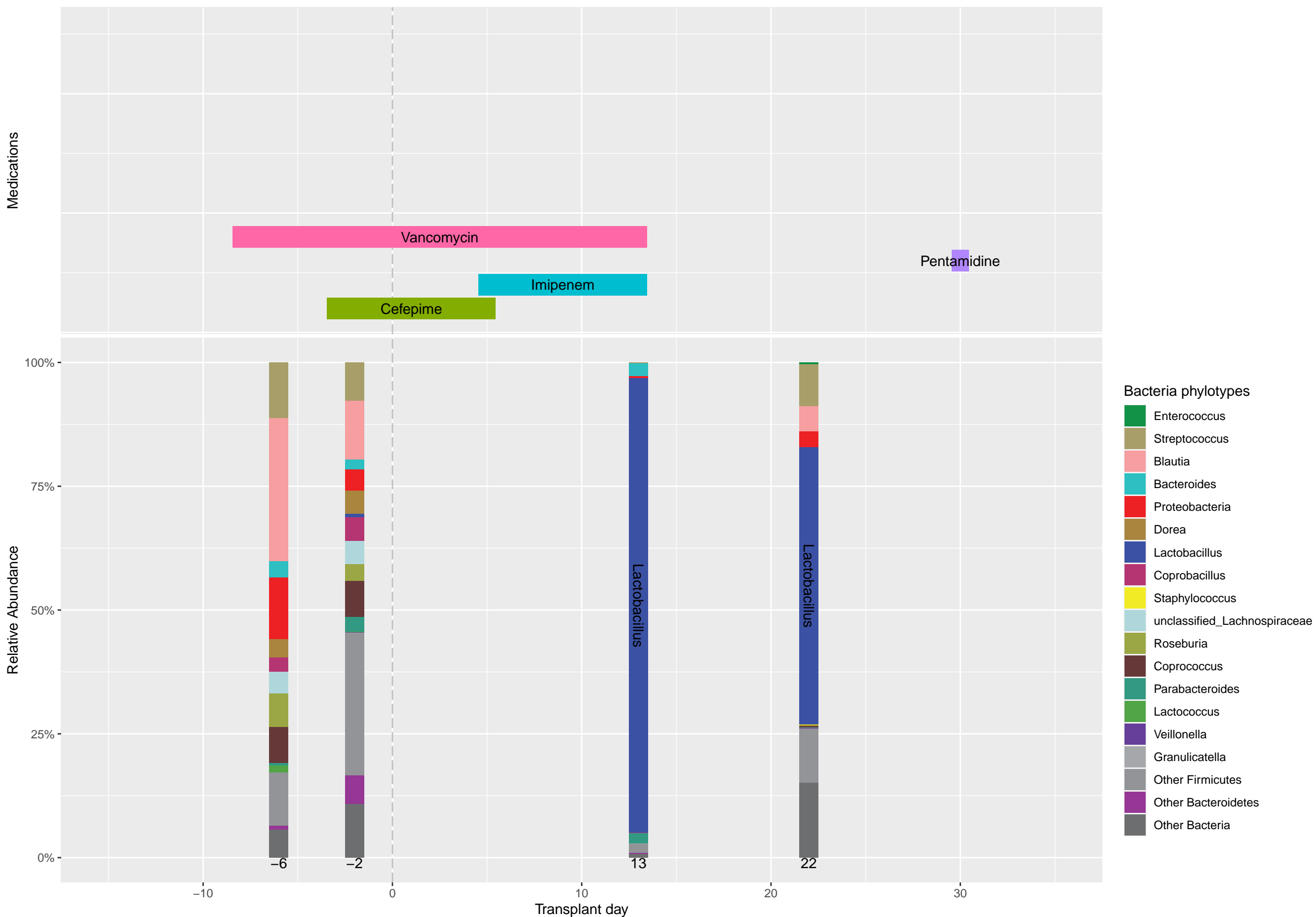




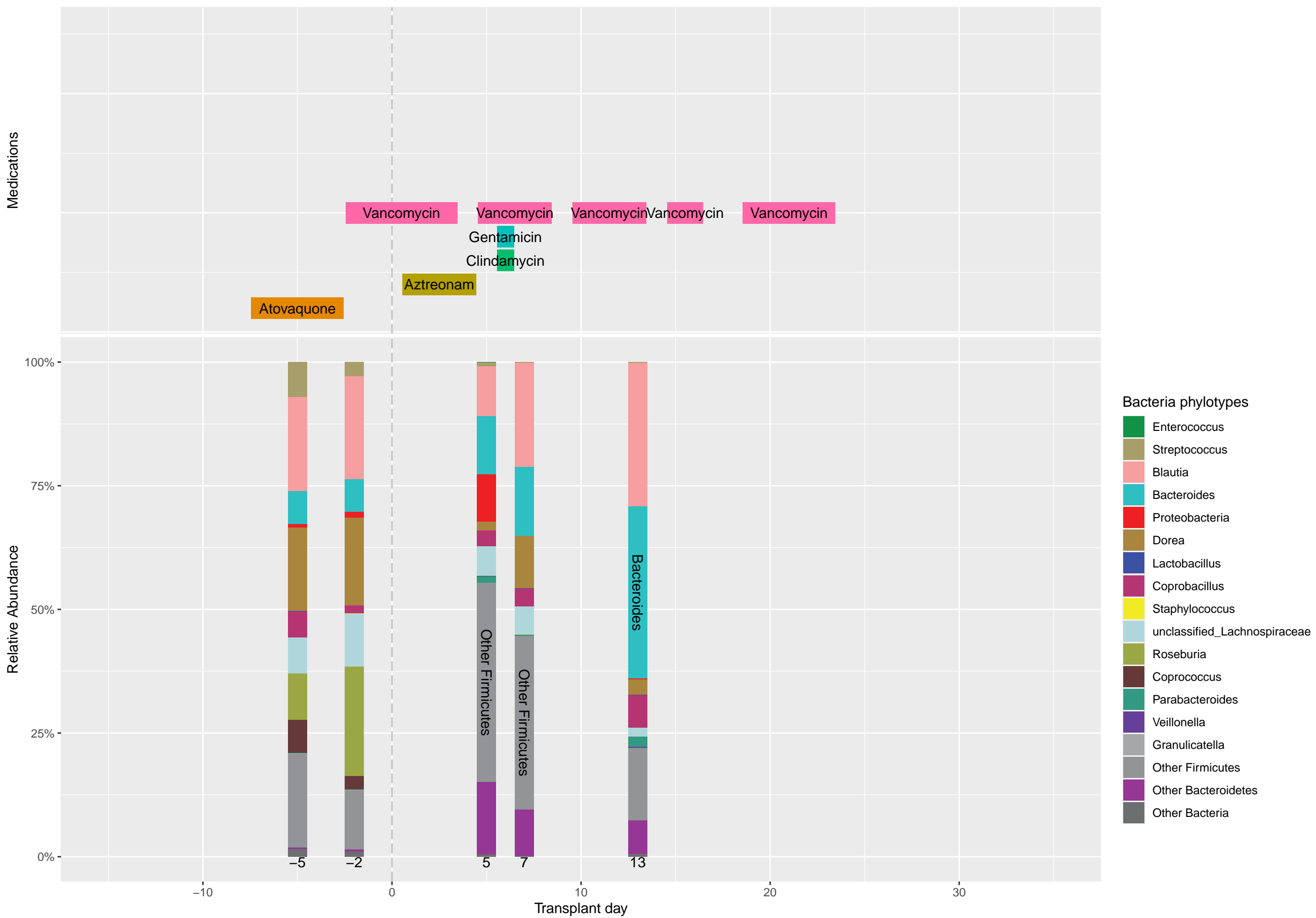
Patient 195 (Myelodysplastic Syndrome)



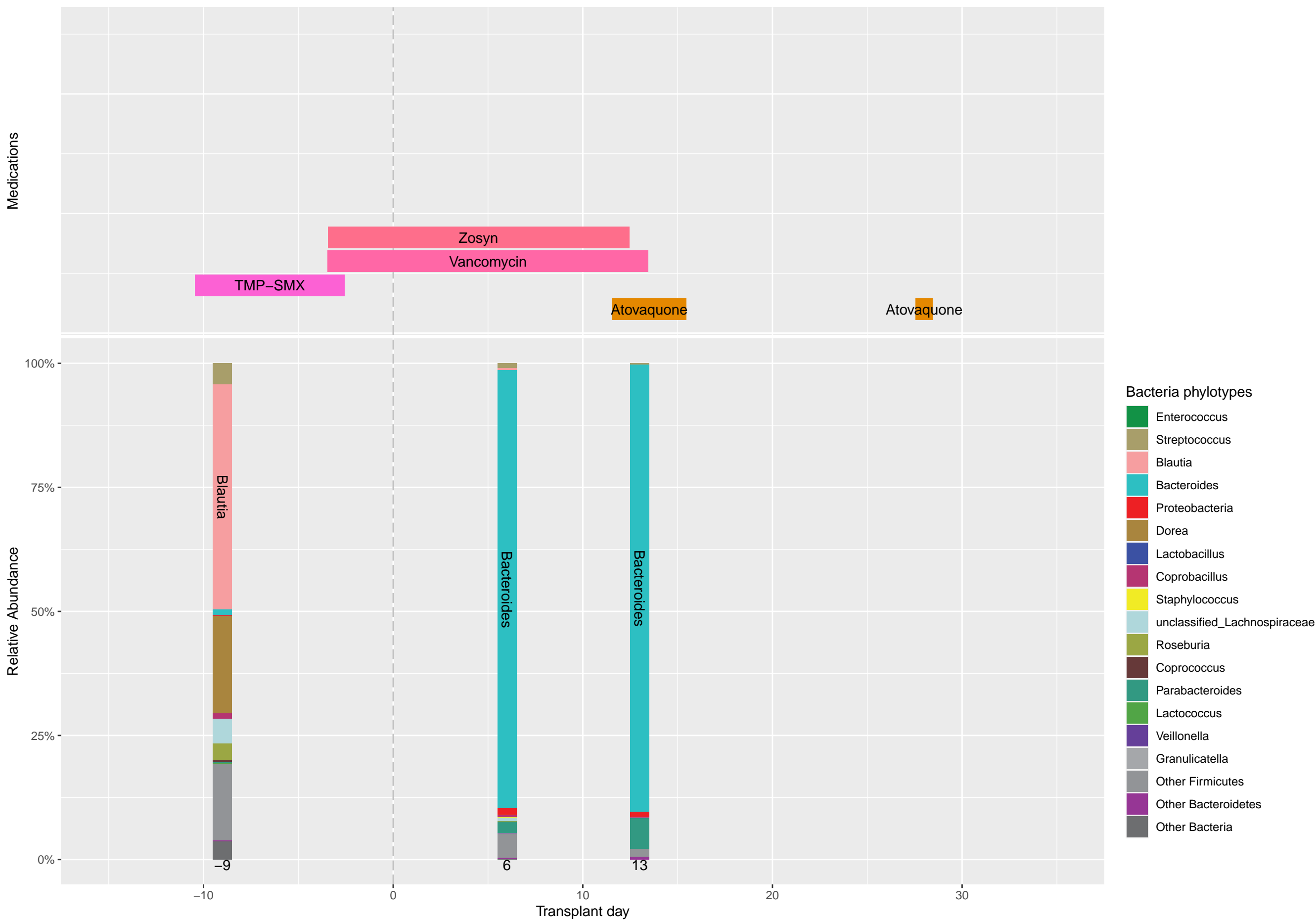
Patient 196 (Myelodysplastic Syndrome)



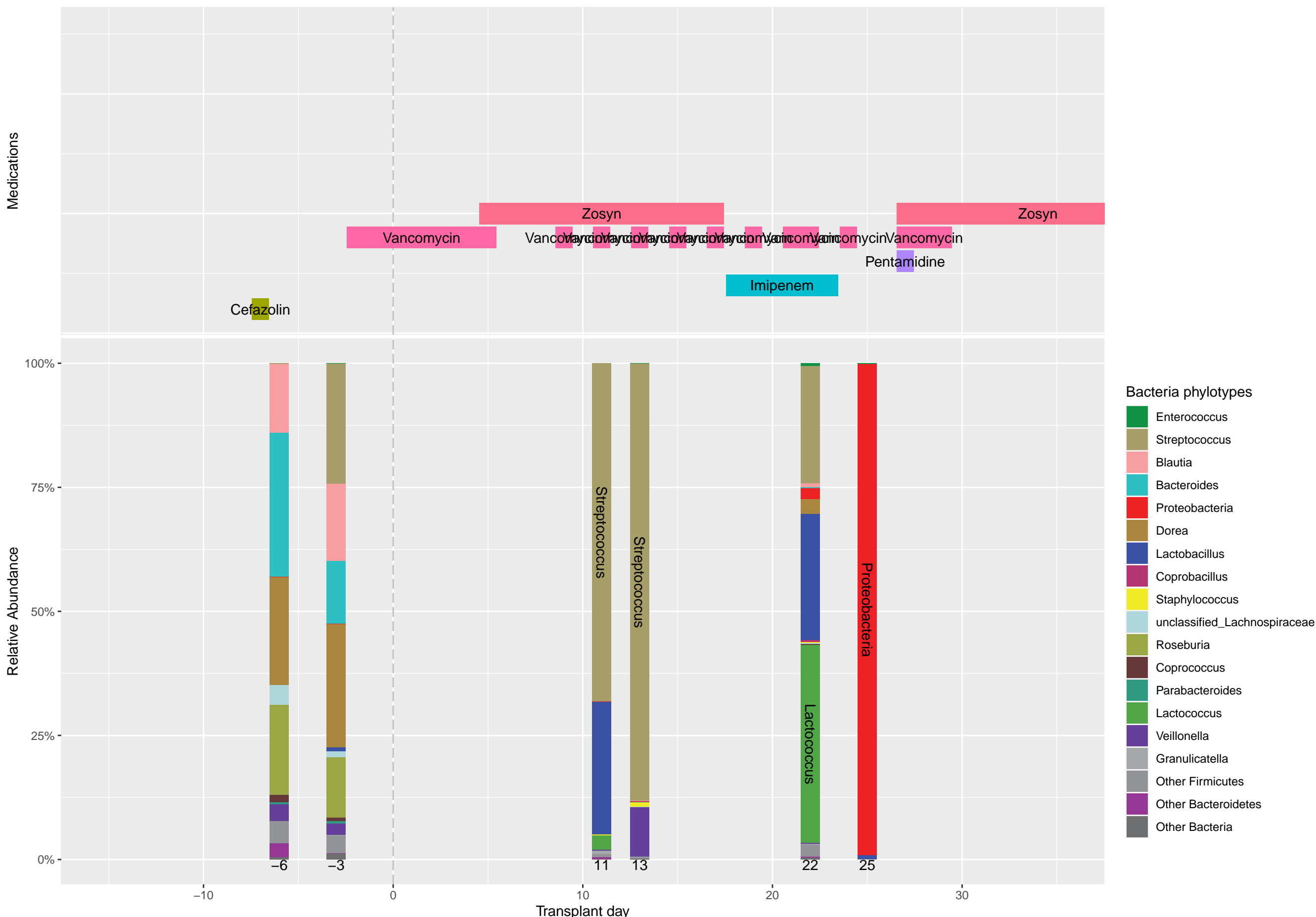
### Patient 197 (Lymphoma)



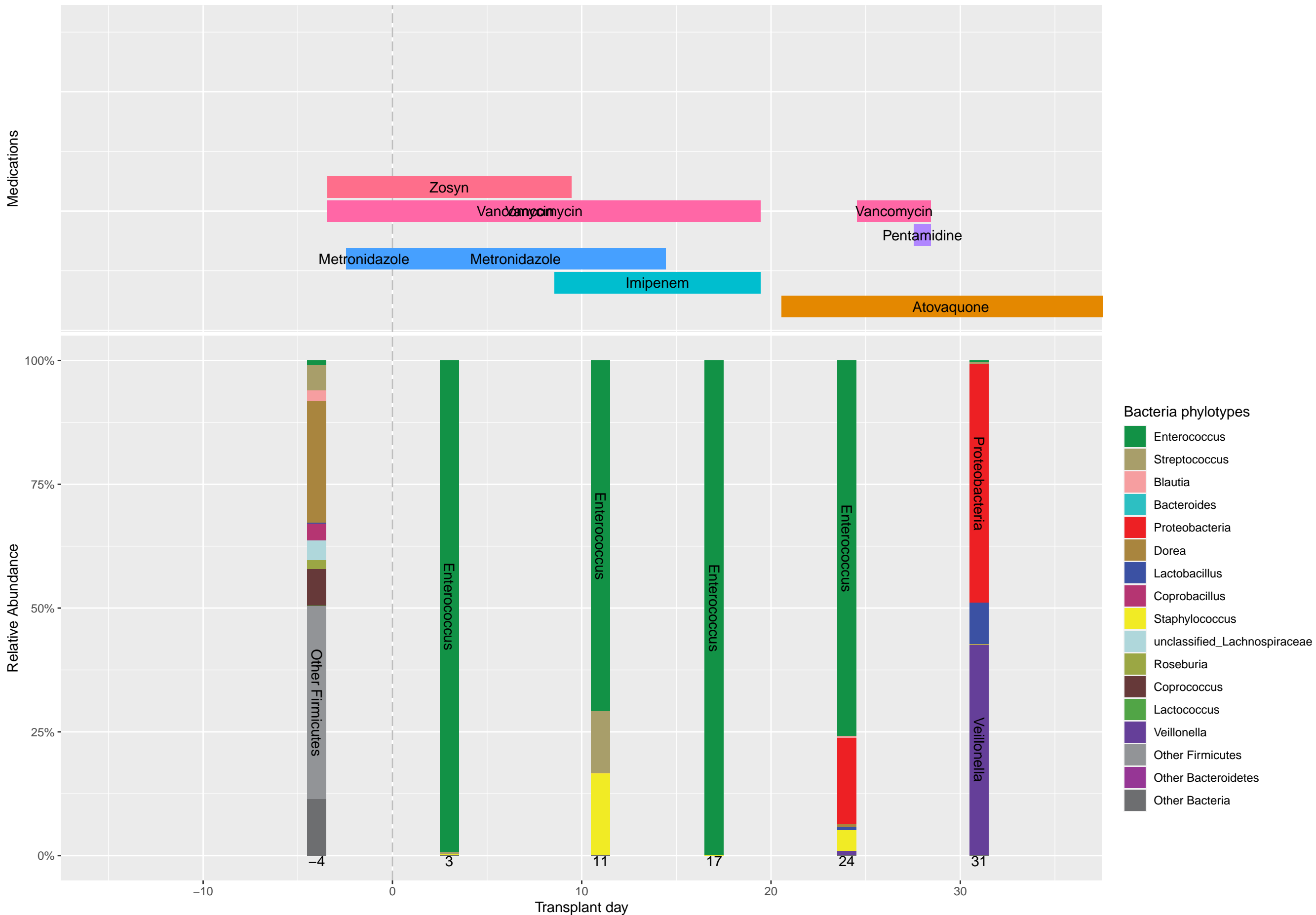
Patient 198 (Multiple Myeloma)



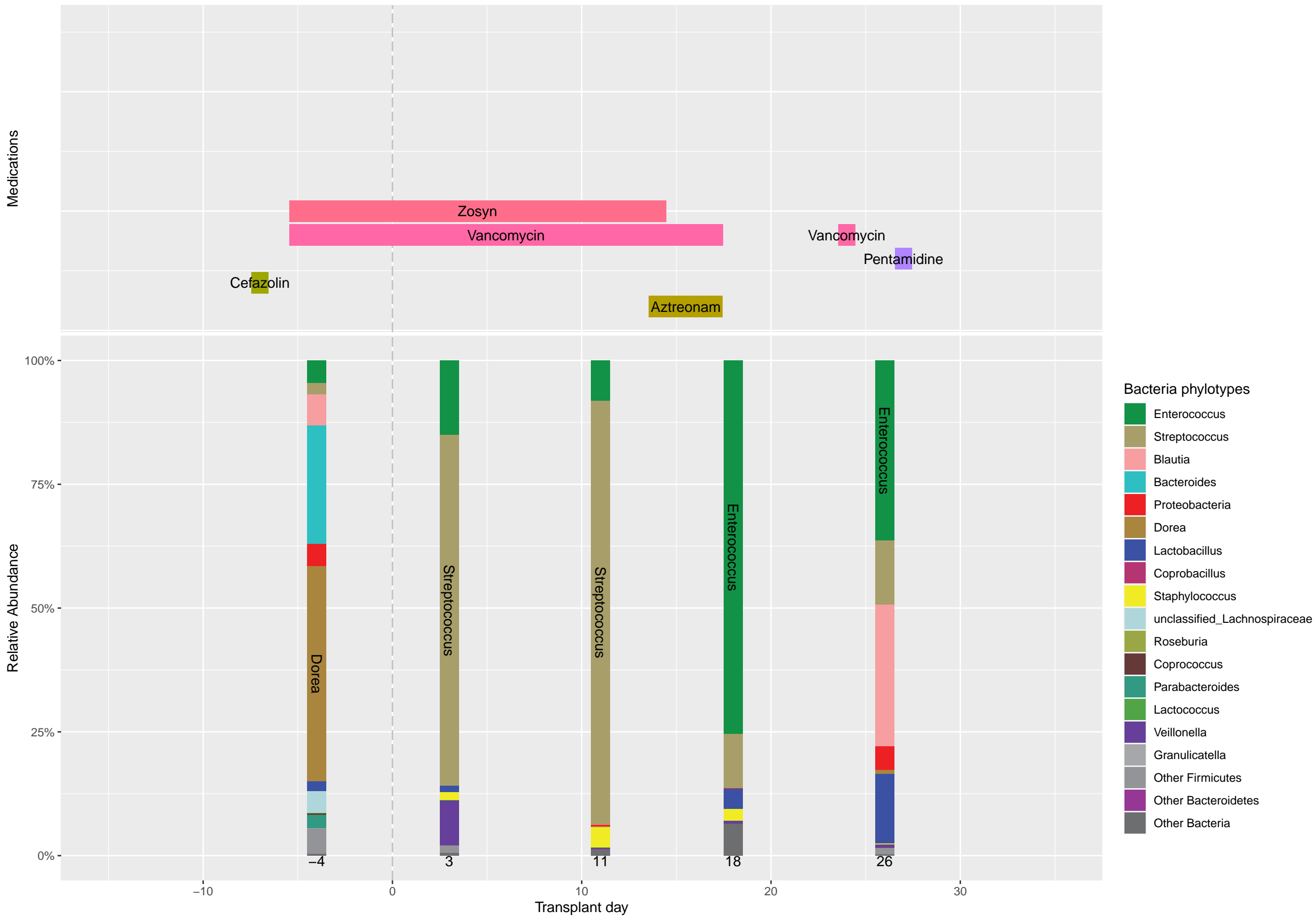
Patient 200 (Lymphoma)



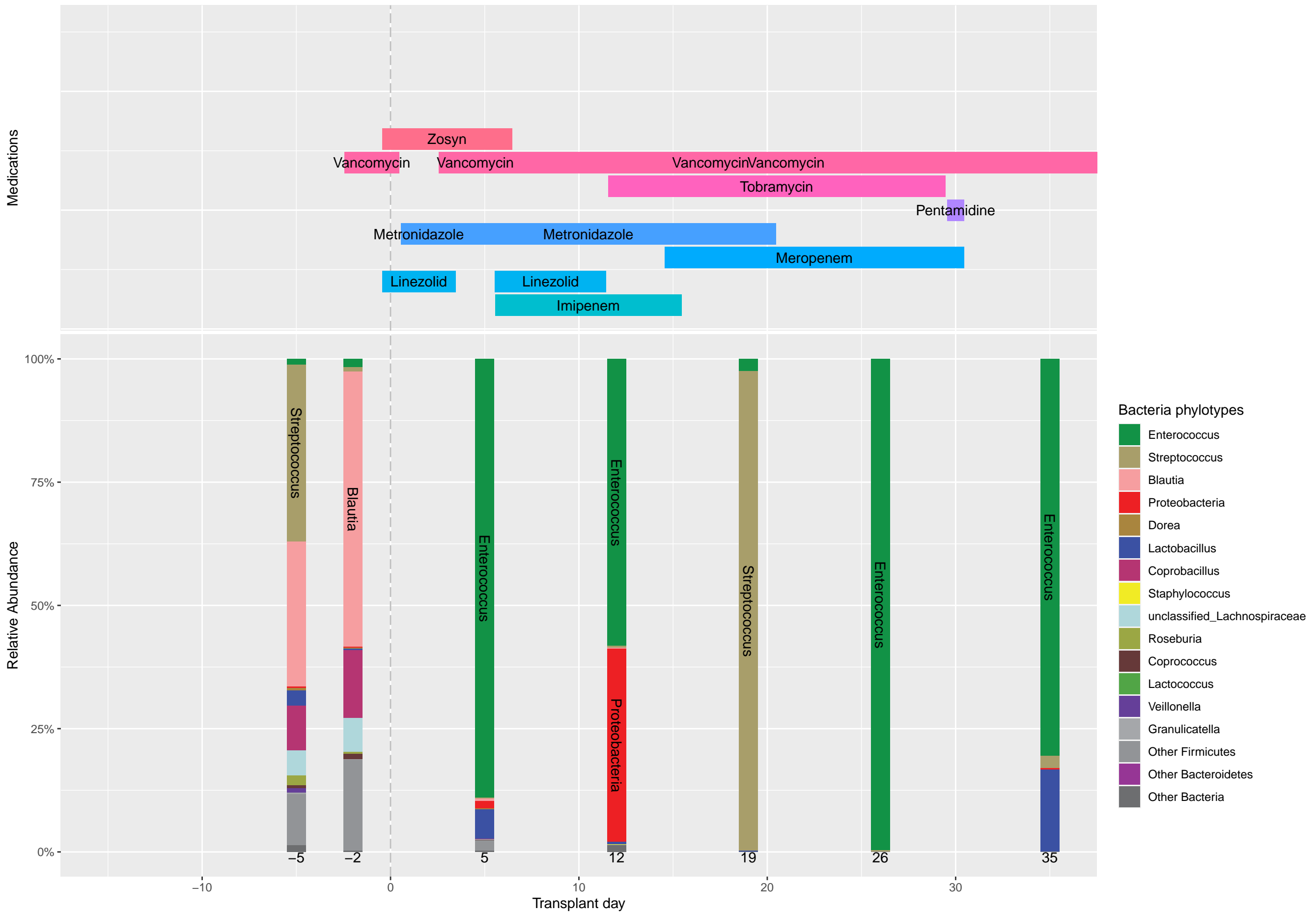
Patient 201 (Leukemia)



Patient 202 (Leukemia)



Patient 203 (Leukemia)





The figure consists of two vertically aligned charts sharing a common x-axis representing 'Transplant day'.

**Top Chart: Antibiotic Usage**

This chart displays the duration of various antibiotics administered to the patient. The x-axis represents the transplant day, ranging from -10 to 35. The y-axis represents the antibiotic name. The duration of each antibiotic is shown as a horizontal bar with its name labeled inside.

Antibiotic	Start Day (approx.)	End Day (approx.)
Vancomycin	-2	19
Tobramycin	2	2
Metronidazole	-4	18
Linezolid	3	3
Imipenem	4	4
Cefepime	3	5
Aztreonam	5	18
Pentamidine	31	31

**Bottom Chart: Bacterial Growth**

This chart displays the bacterial growth over time, relative to the transplant day. The x-axis represents the transplant day, ranging from -10 to 35. The y-axis represents the bacterial count on a log scale, ranging from 10<sup>0</sup> to 10<sup>10</sup>. The growth is shown as stacked bars for specific days: -7, -2, 3, 18, and 24. The legend identifies the bacteria: Enterococcus (green), Lactobacillus (blue), and others in various colors.

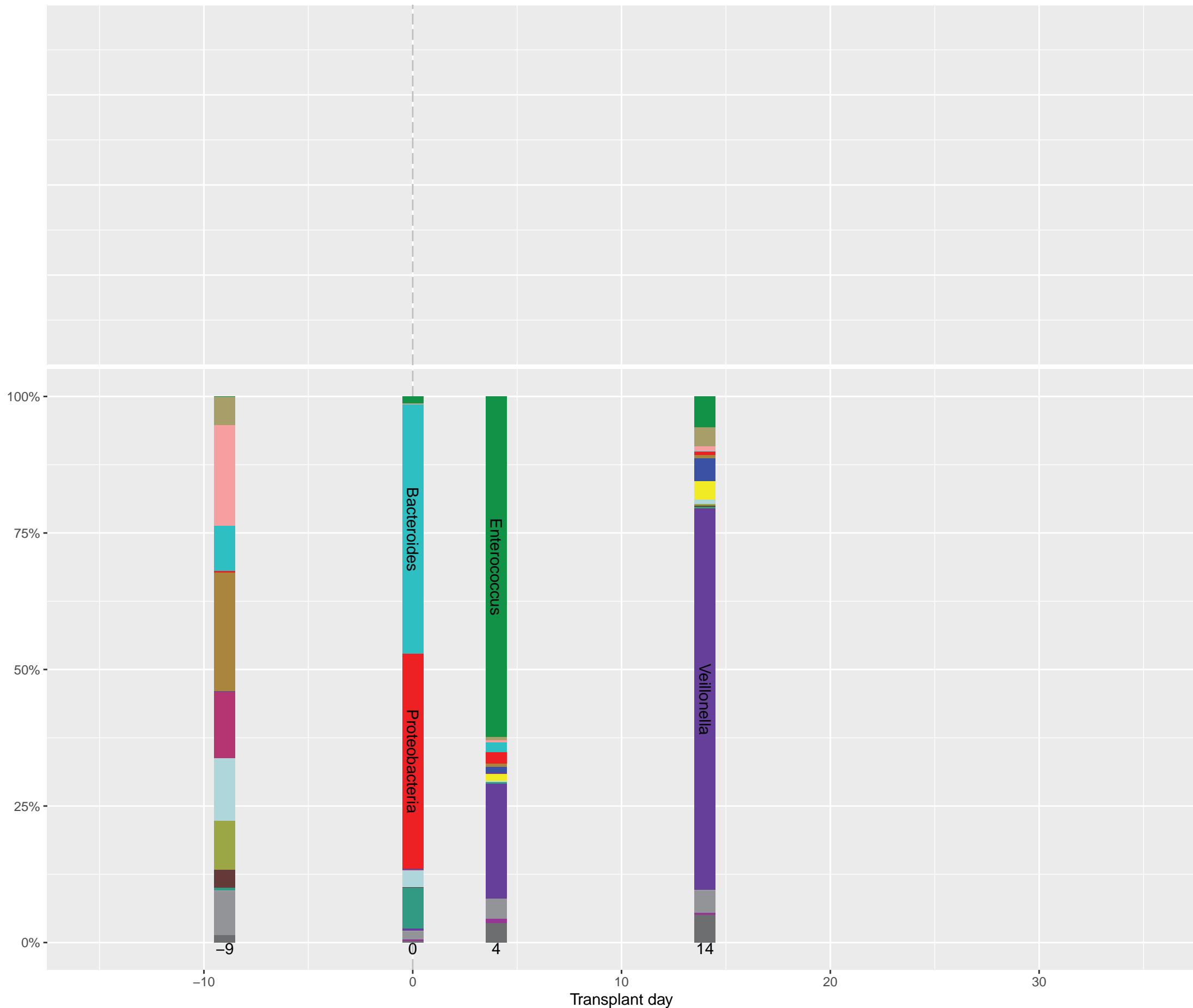
Transplant Day	Primary Bacteria	Approximate Count
-7	Enterococcus, Lactobacillus, and others	10 <sup>10</sup>
-2	Enterococcus, Lactobacillus, and others	10 <sup>10</sup>
3	Enterococcus, Lactobacillus, and others	10 <sup>10</sup>
18	Enterococcus, Lactobacillus, and others	10 <sup>10</sup>
24	Enterococcus, Lactobacillus, and others	10 <sup>10</sup>



Patient 206 (Multiple Myeloma)

Medications

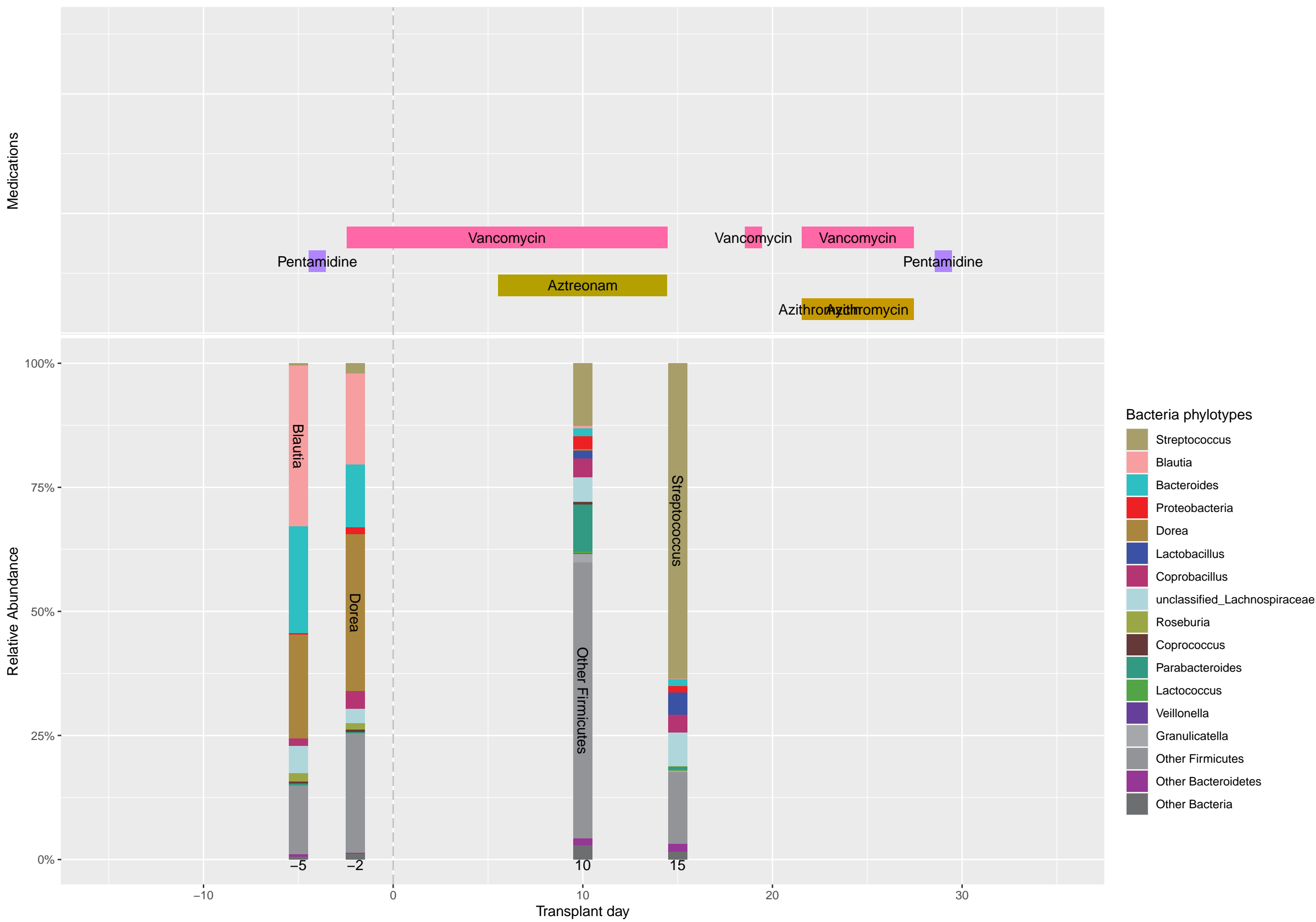
Relative Abundance



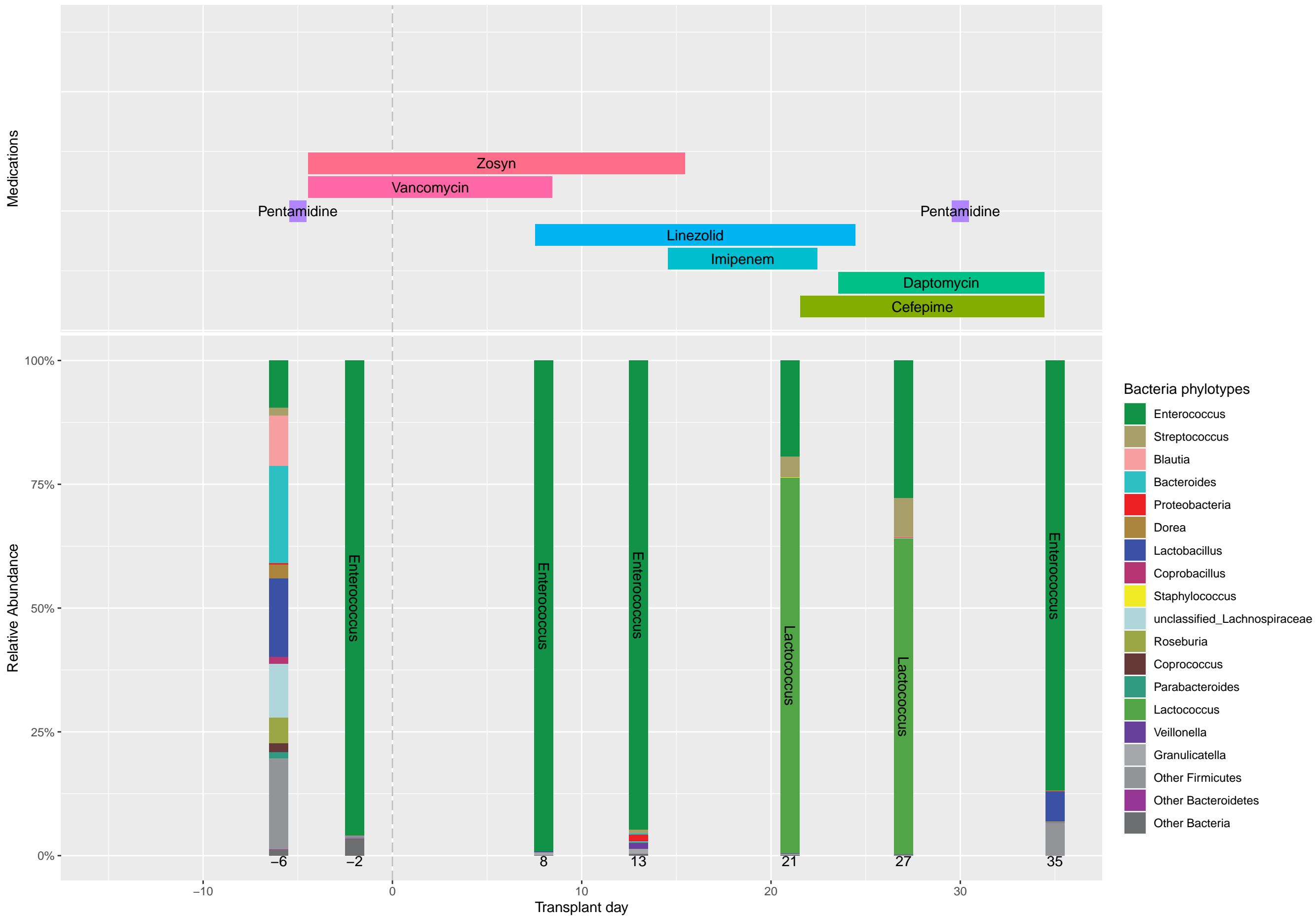
Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

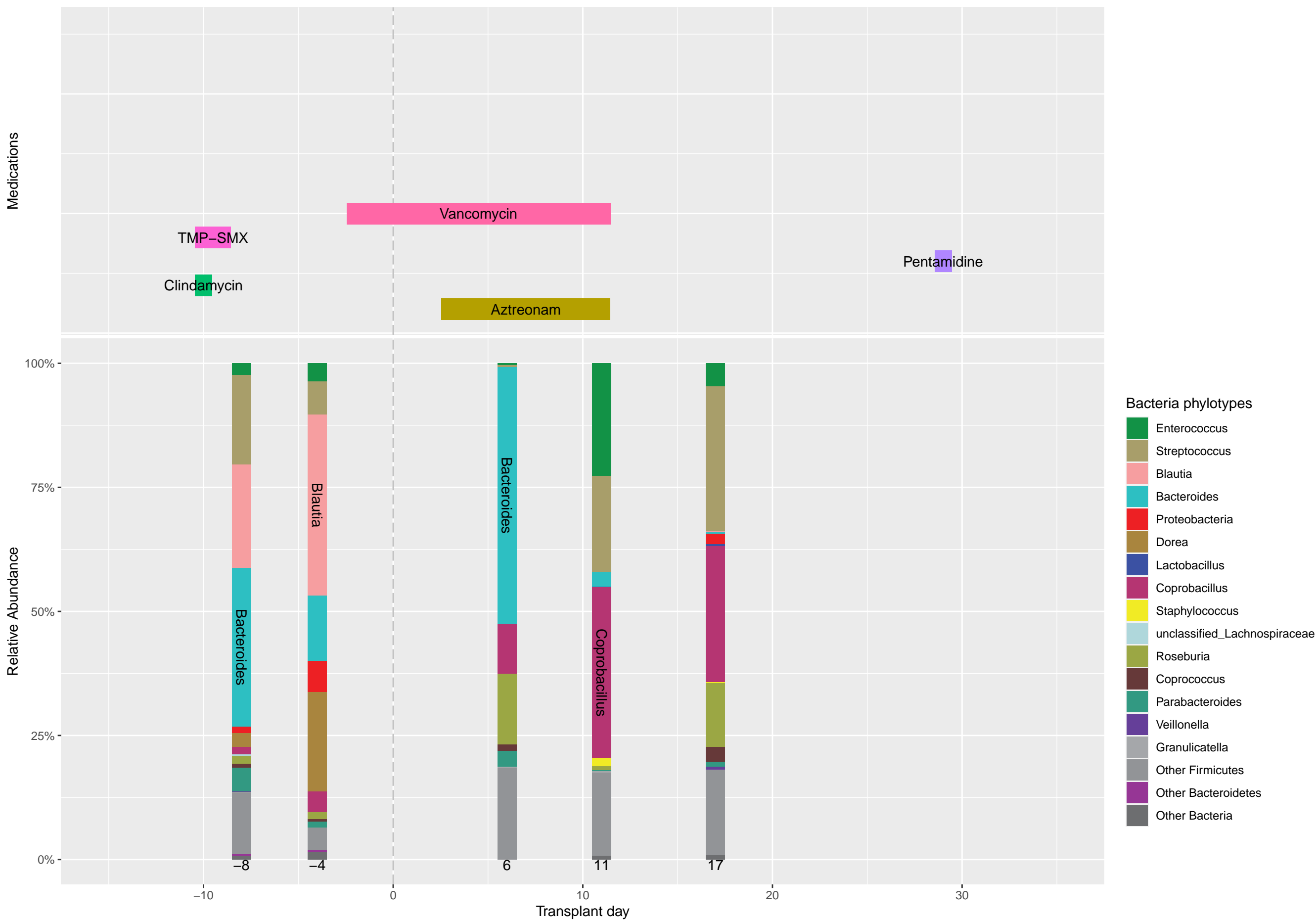
Patient 209 (Lymphoma)



Patient 210 (Leukemia)



Patient 211 (Multiple Myeloma)



Patient 214 (Leukemia)

Medications

Relative Abundance

100%

75%

50%

25%

0%

-10

0

10

20

30

Transplant day

-5

-3

4

12

18

Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

Blautia

Enterococcus

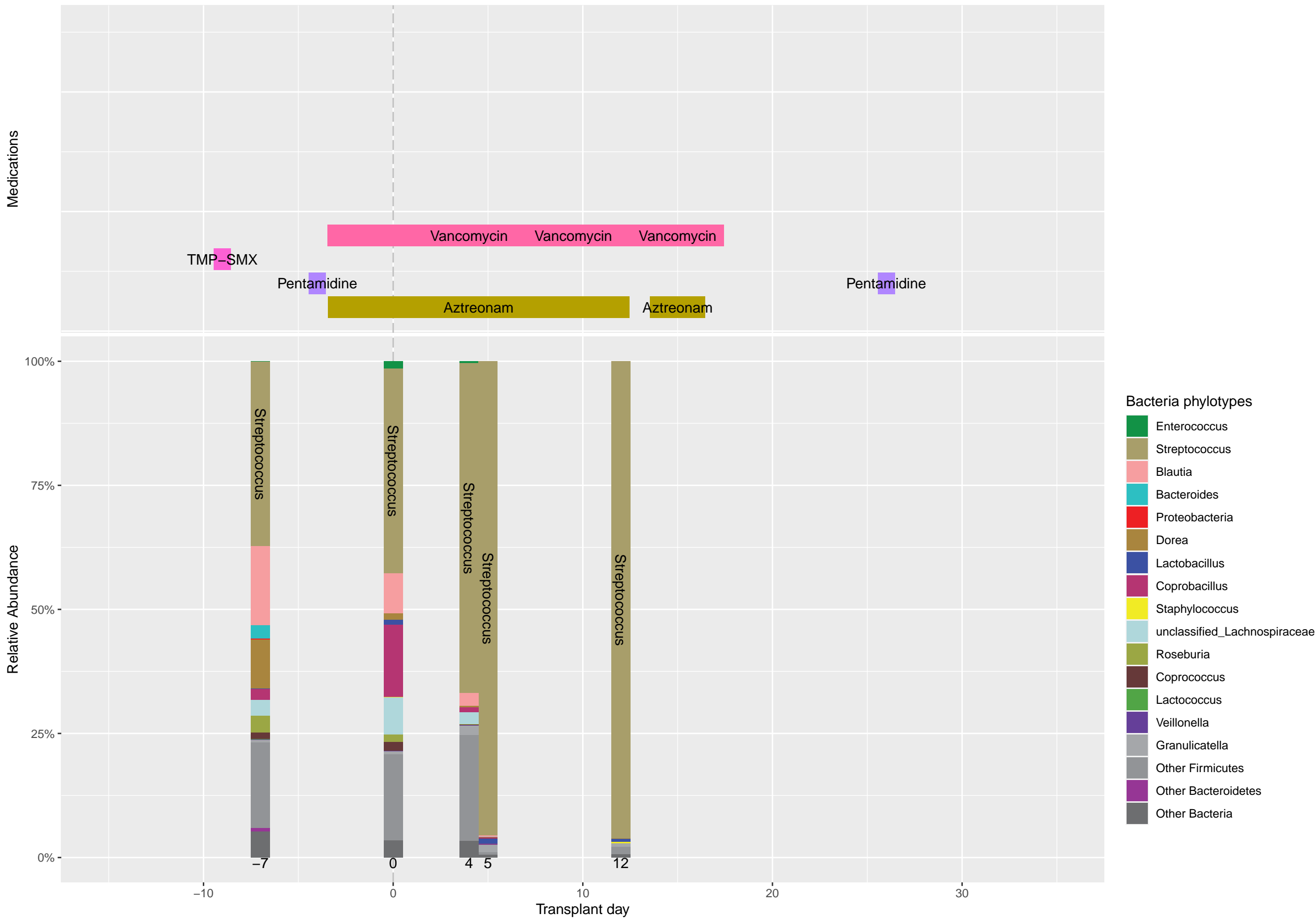
Blautia

Enterococcus

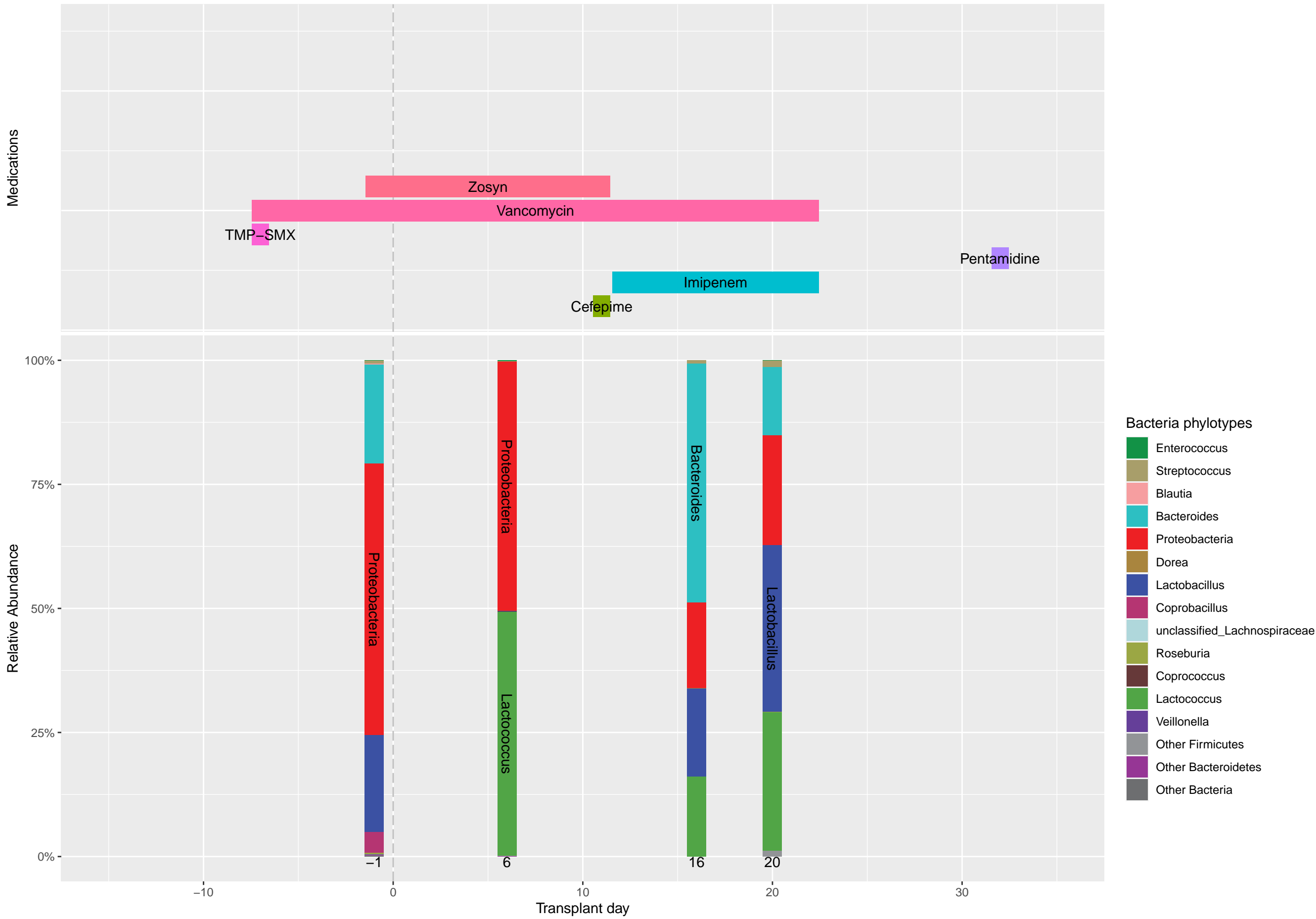
Streptococcus

Enterococcus

Patient 217 (Leukemia)

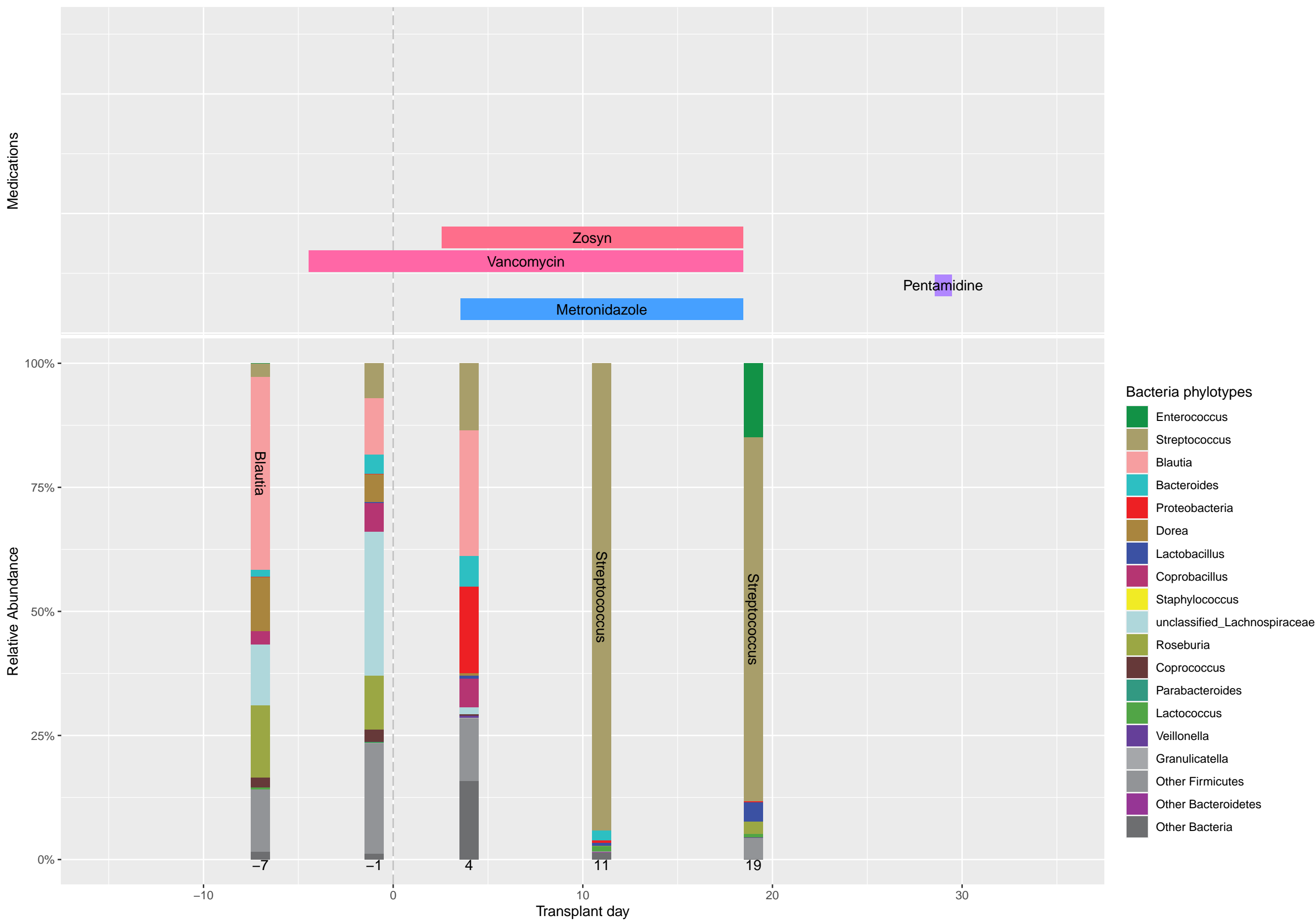


Patient 219 (Lymphoma)

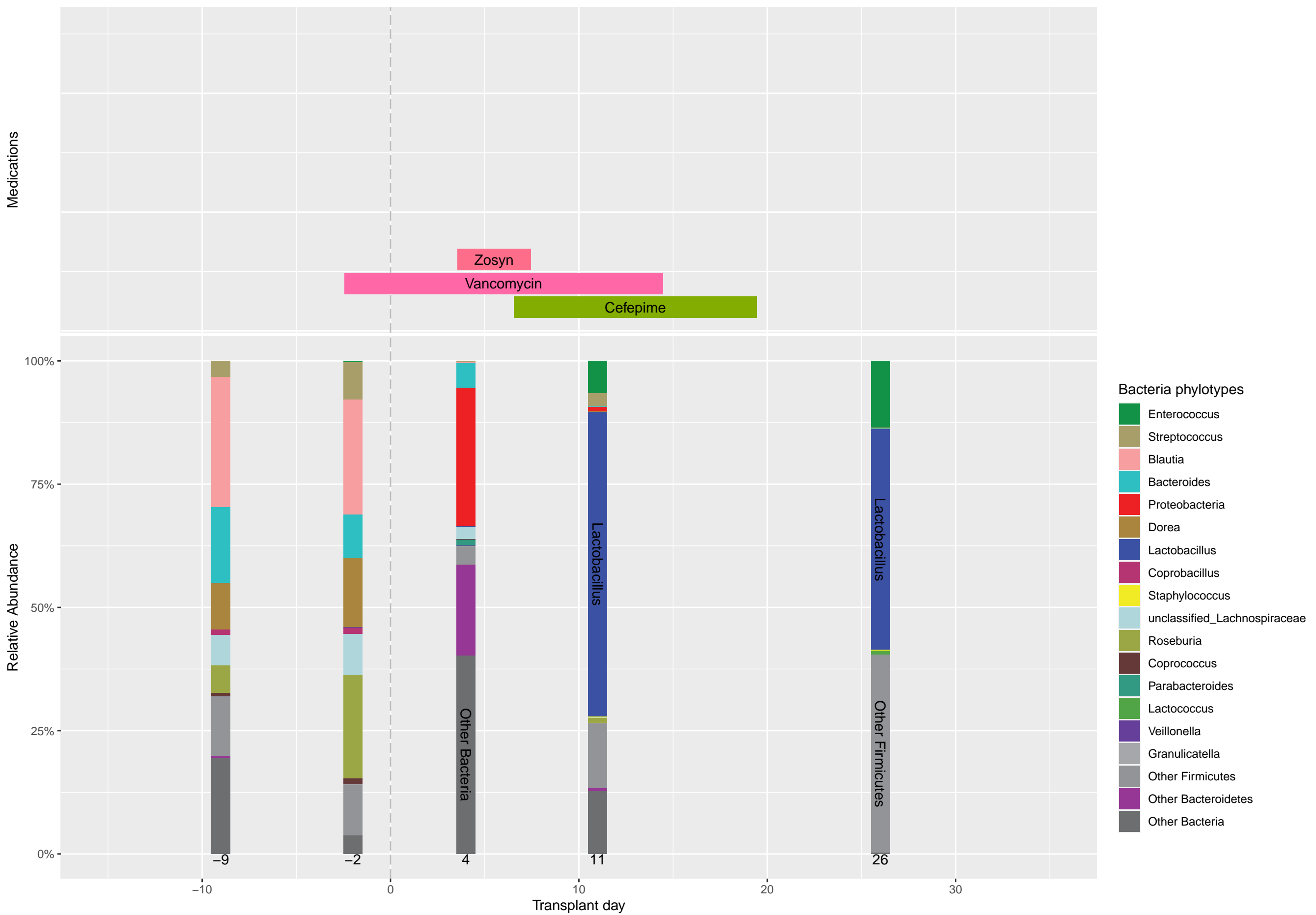




Patient 220 (Lymphoma)



### Patient 221 (Myelodysplastic Syndrome)



Patient 222 (Leukemia)

Medications

Relative Abundance

- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Lactobacillus
  - Coprobacillus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coprococcus
  - Parabacteroides
  - Veillonella
  - Granulicatella
  - Other Firmicutes
  - Other Bacteria

Zosyn

Vancomycin

Blautia

Bacteroides

Proteobacteria

Proteobacteria

100%

75%

50%

25%

0%

-10

0

10

20

30

Transplant day

-6

-1

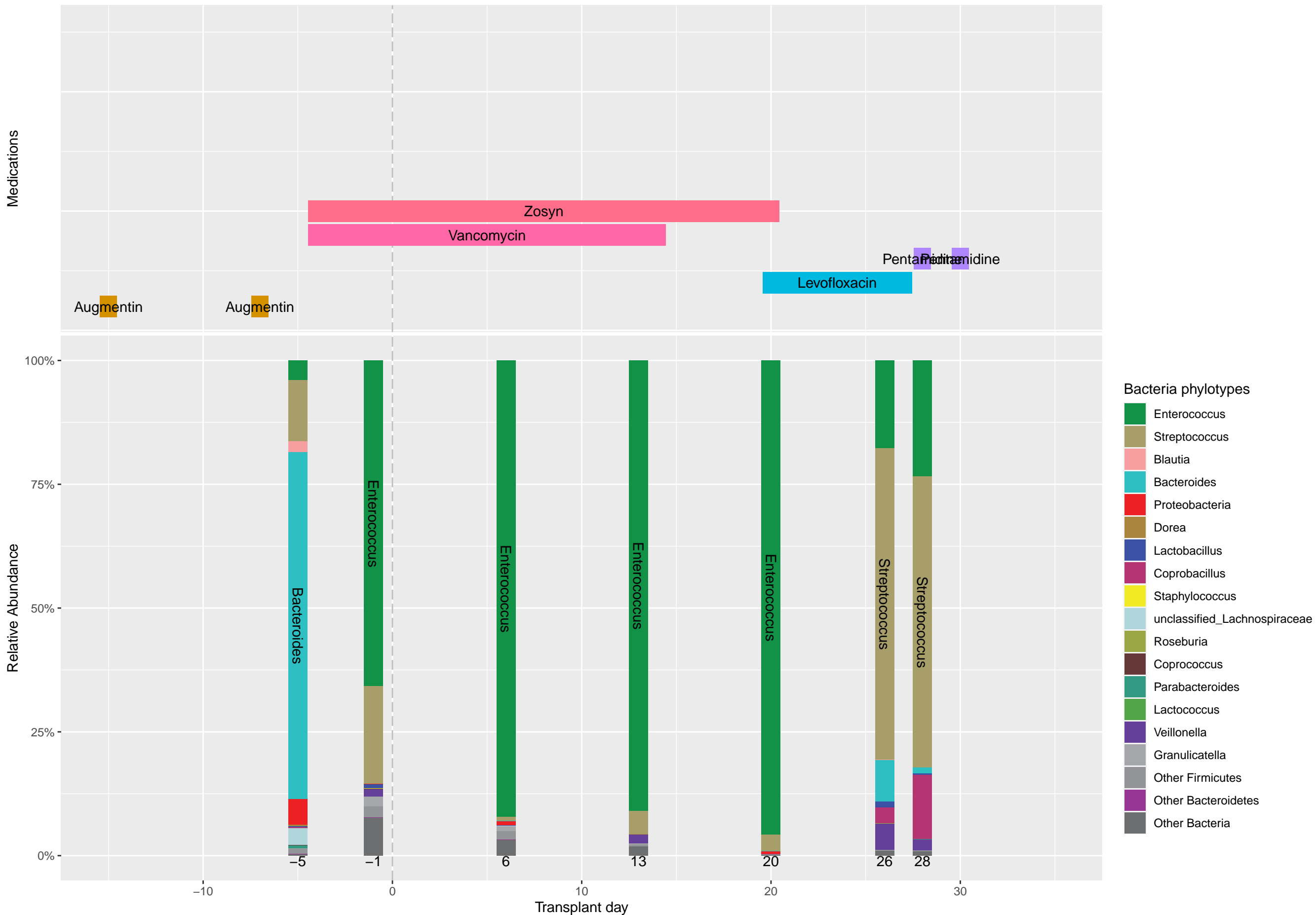
0

6

13

20

Patient 223 (Leukemia)



Patient 224 (Other)

Medications

Relative Abundance

Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

Pentamidine

Zosyn

Vancomycin

Pentamidine

Ciprofloxacin

Other Firmicutes

Other Bacteria

Bacteroides

Streptococcus

Proteobacteria

Blautia

-10

0

Transplant day

10

20

30

-8

-1

4

11

25

33

100%

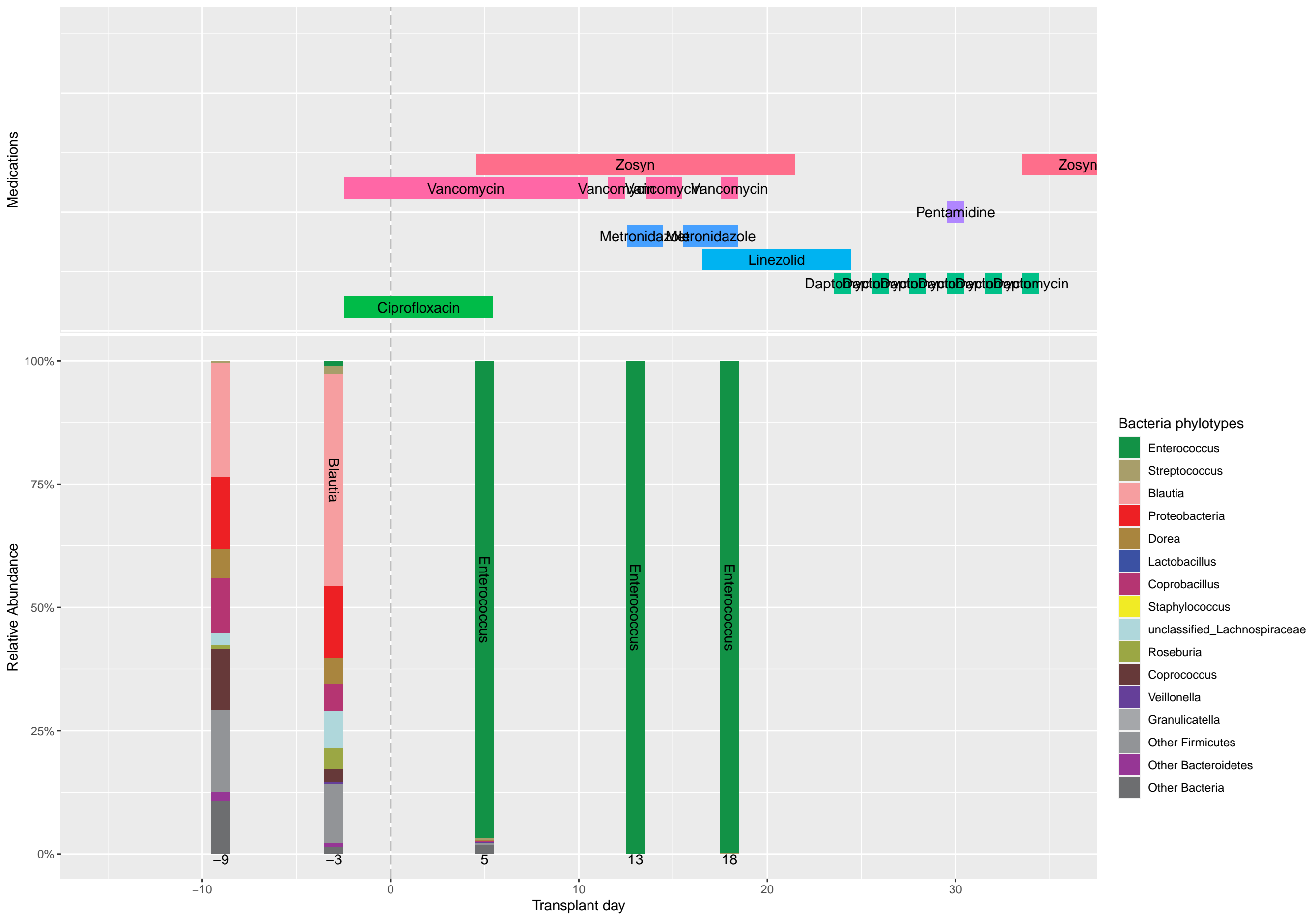
75%

50%

25%

0%

### Patient 226 (Leukemia)



Patient 227 (Leukemia)

Medications

100%

75%

50%

25%

0%

Relative Abundance

-10

0

10

20

30

Transplant day

Zosyn

Vancomycin

Ciprofloxacin

Aztreonam

Pentamidine

Bacteria phylotypes

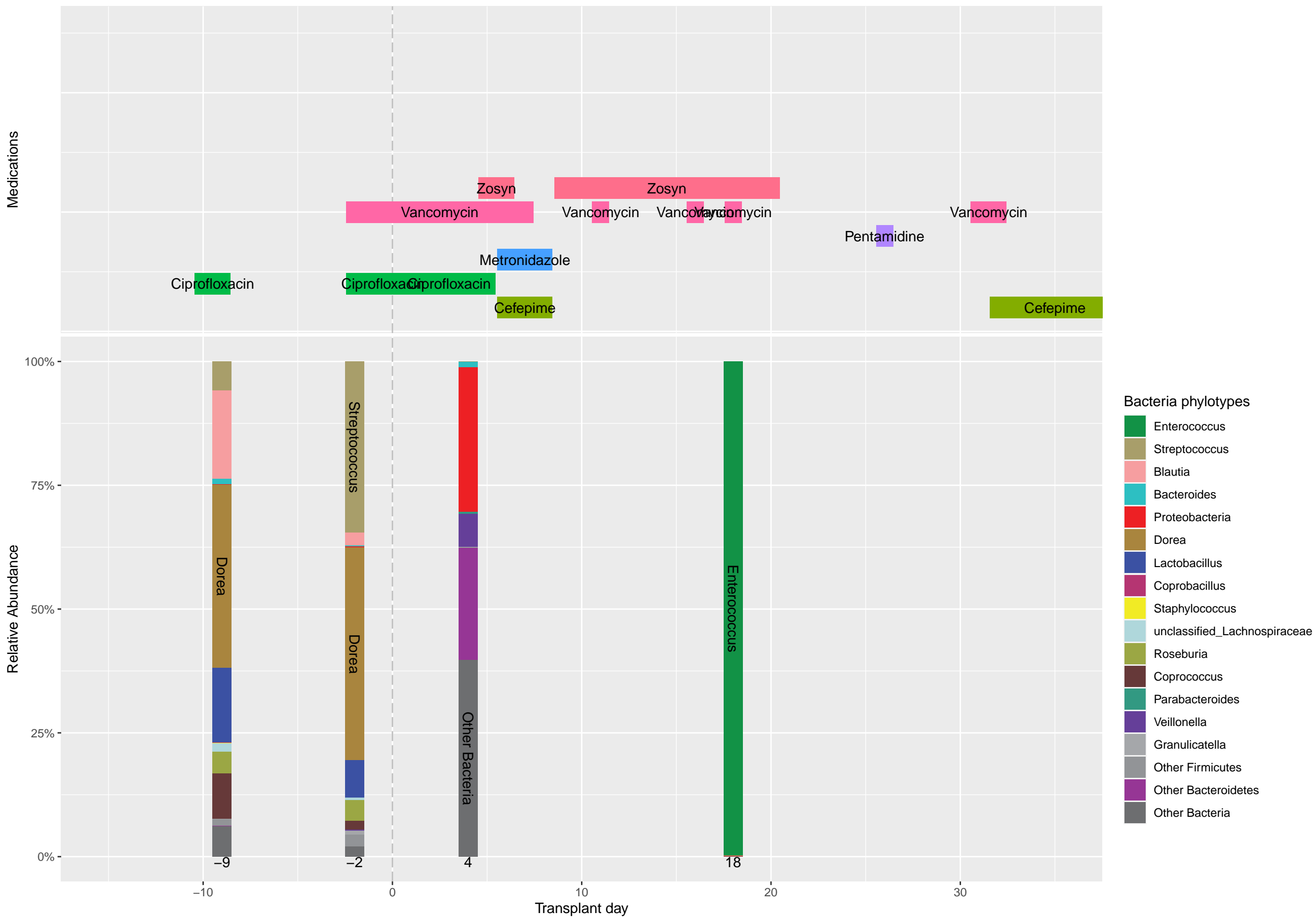
- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

unclassified\_Lachnospiraceae

Lactobacillus

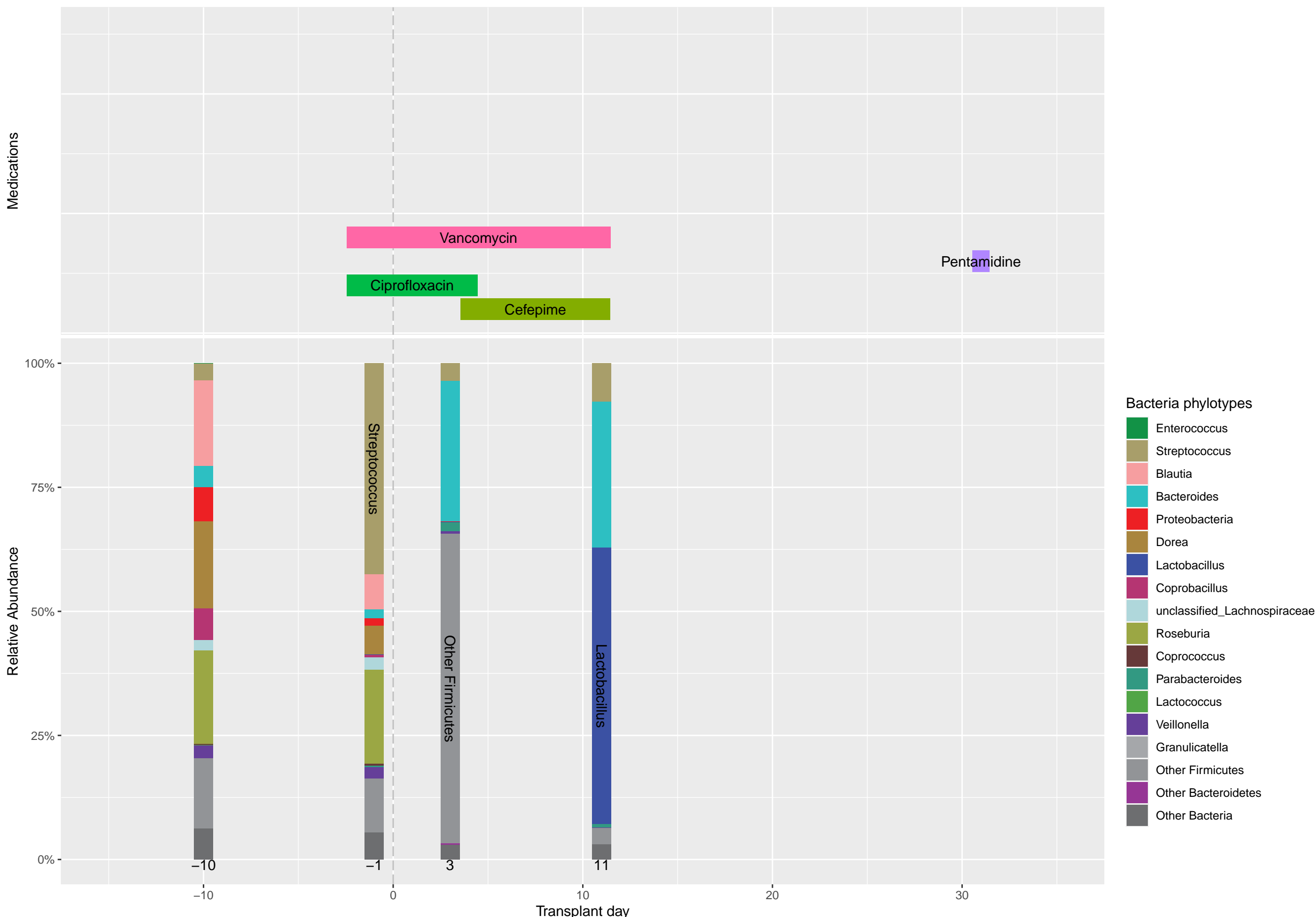
Enterococcus

Patient 228 (Myelodysplastic Syndrome)

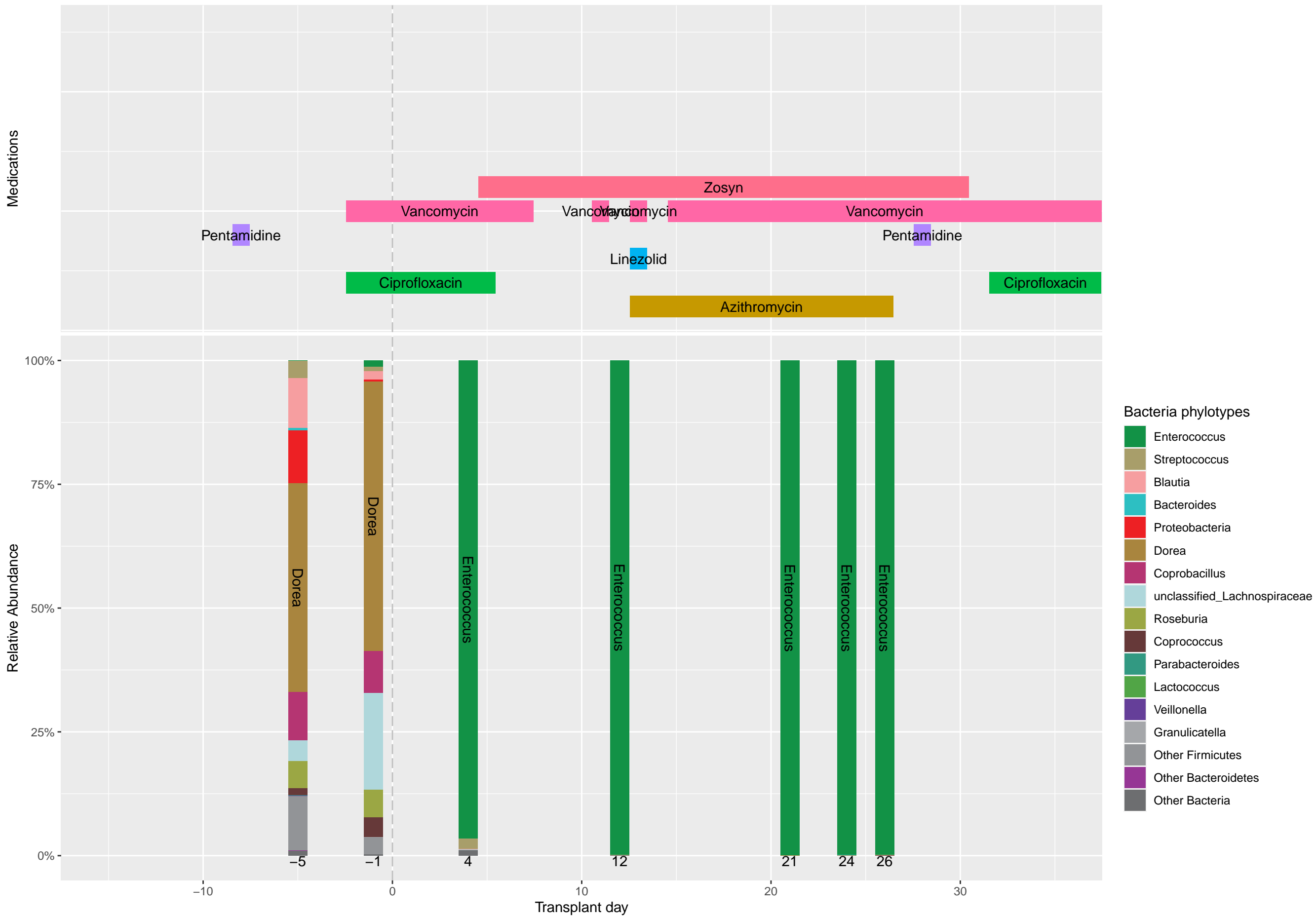




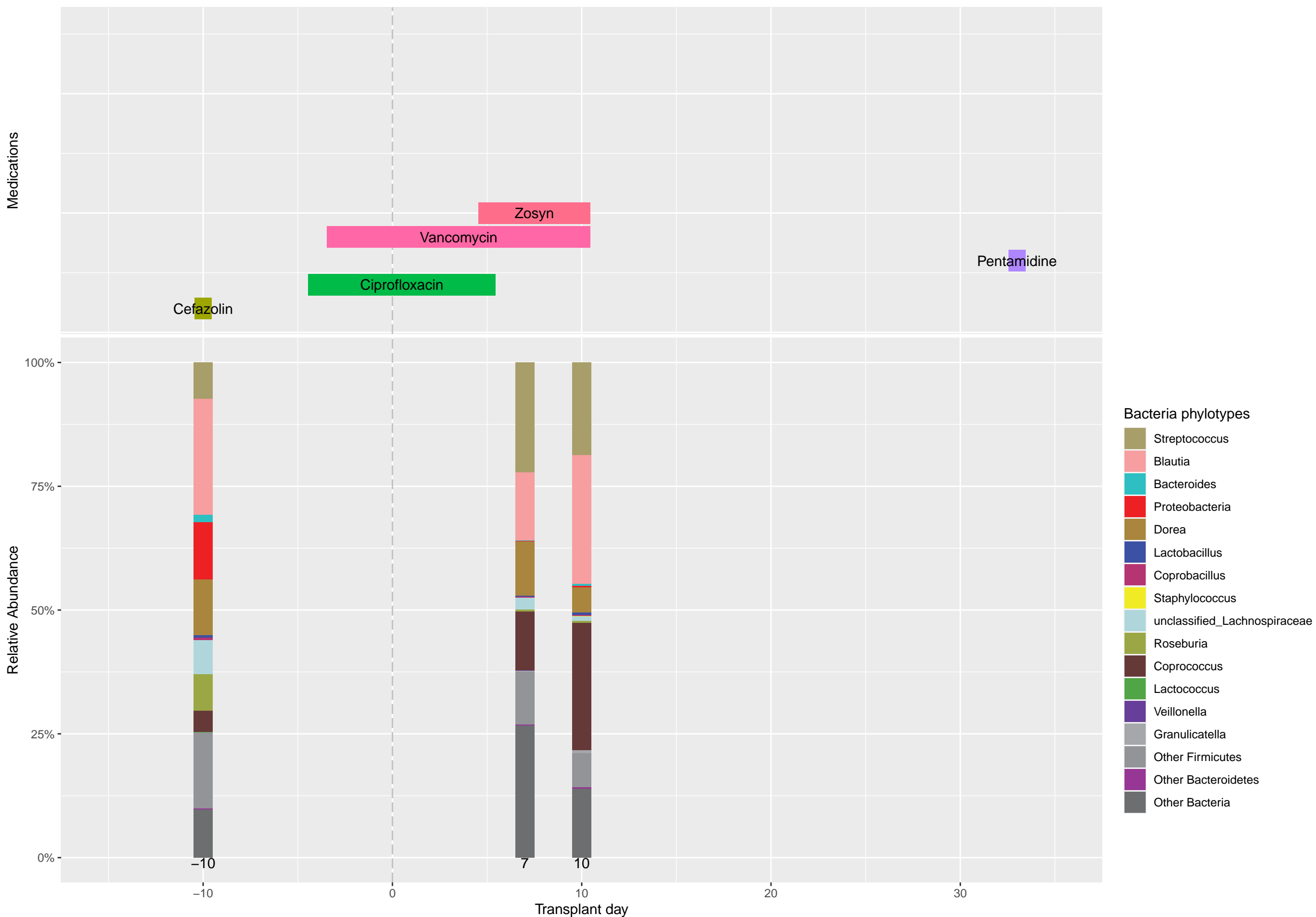
Patient 230 (Myelodysplastic Syndrome)



Patient 232 (Leukemia)



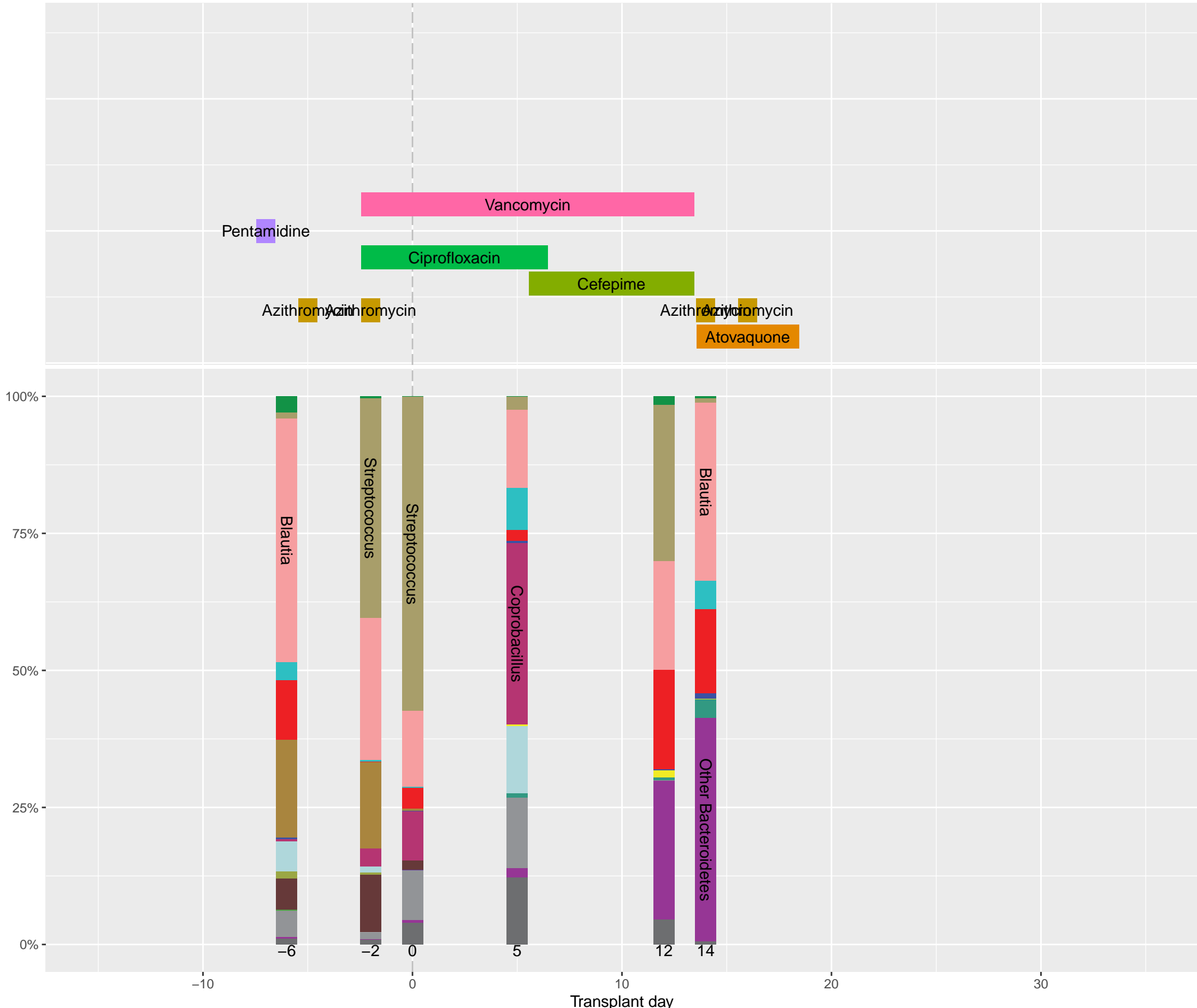
Patient 233 (Myelodysplastic Syndrome)



Patient 234 (Other)

Medications

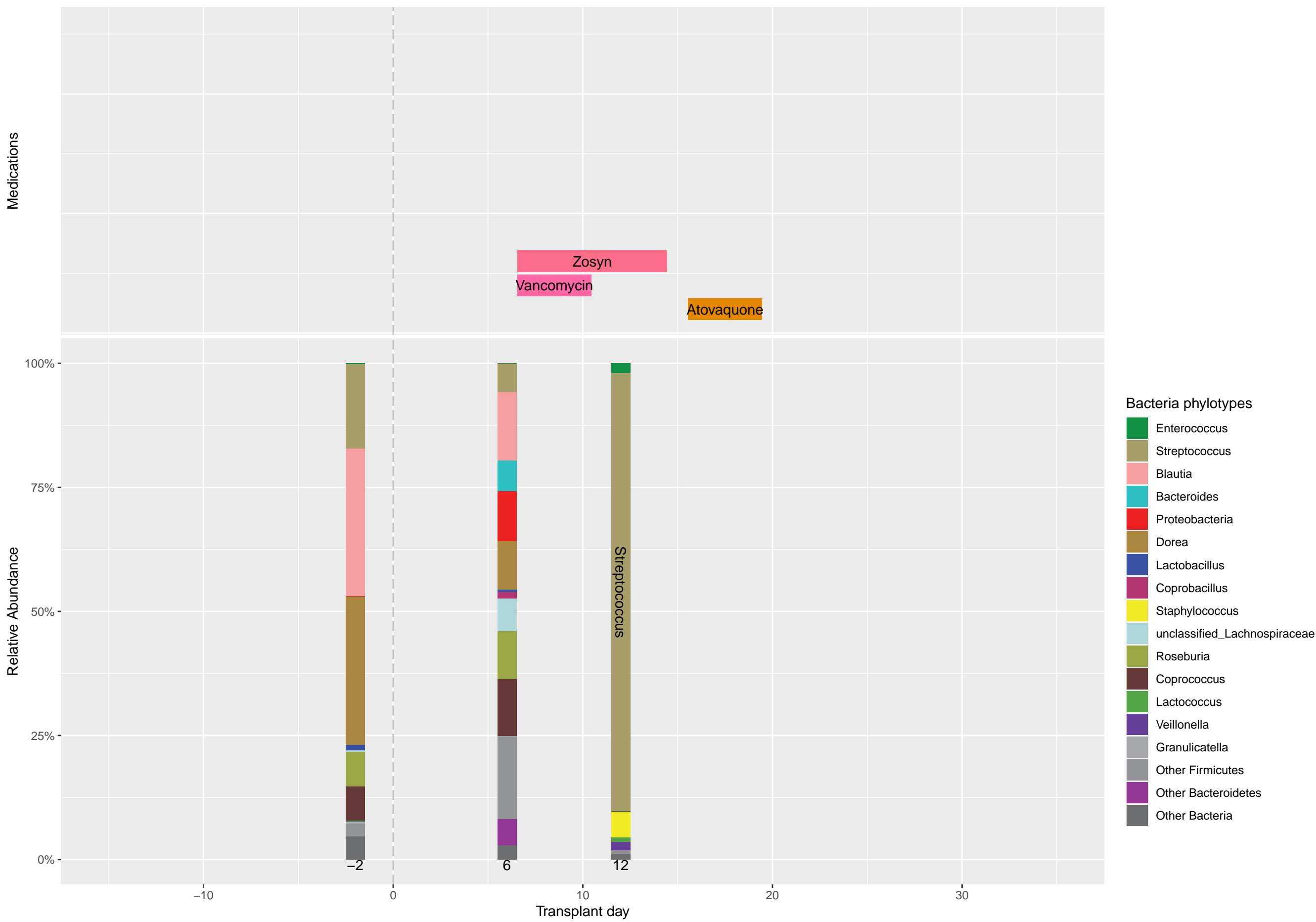
Relative Abundance



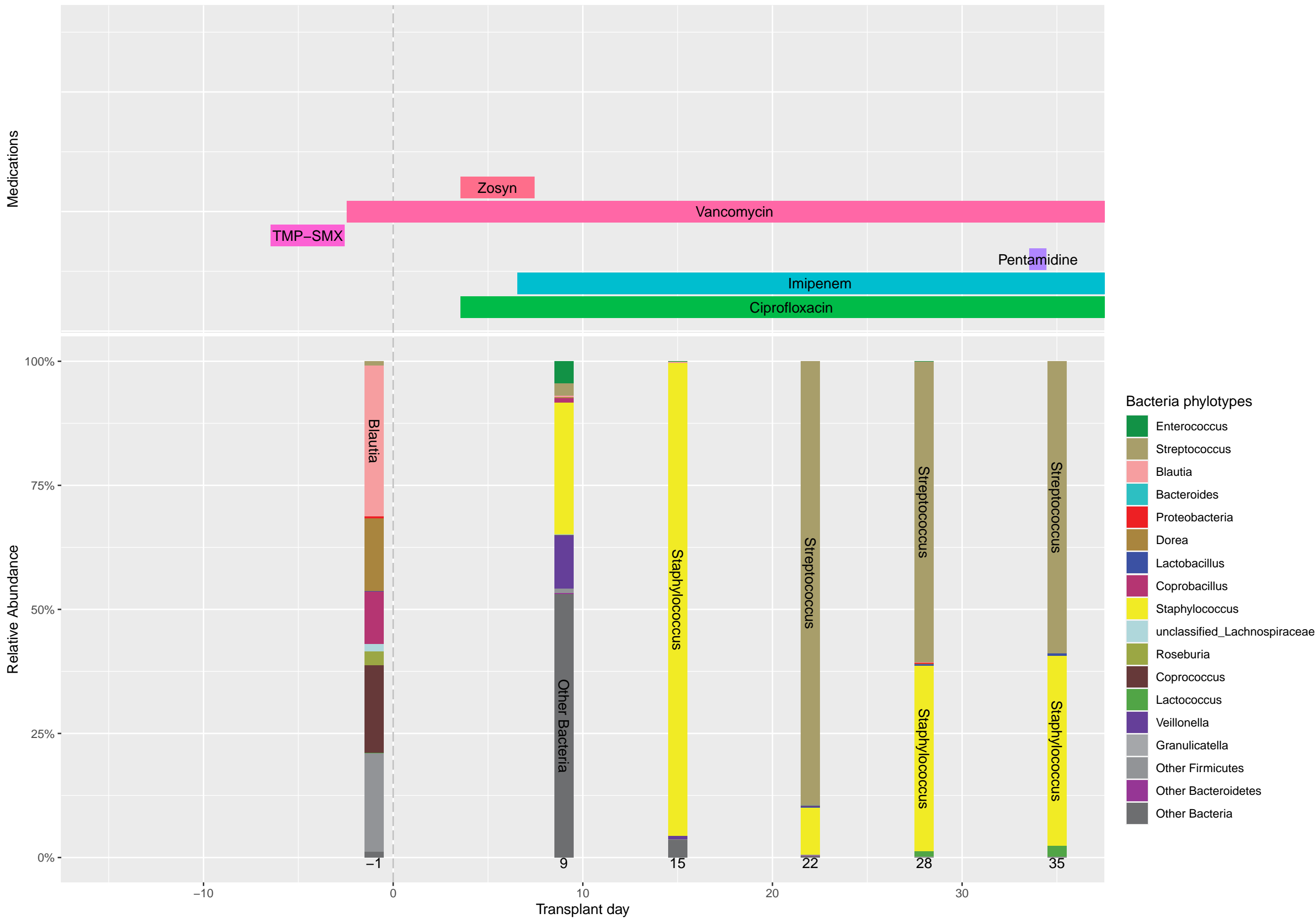
Bacteria phylotypes

- Enterococcus
- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- Staphylococcus
- unclassified\_Lachnospiraceae
- Roseburia
- Coprococcus
- Parabacteroides
- Lactococcus
- Veillonella
- Granulicatella
- Other Firmicutes
- Other Bacteroidetes
- Other Bacteria

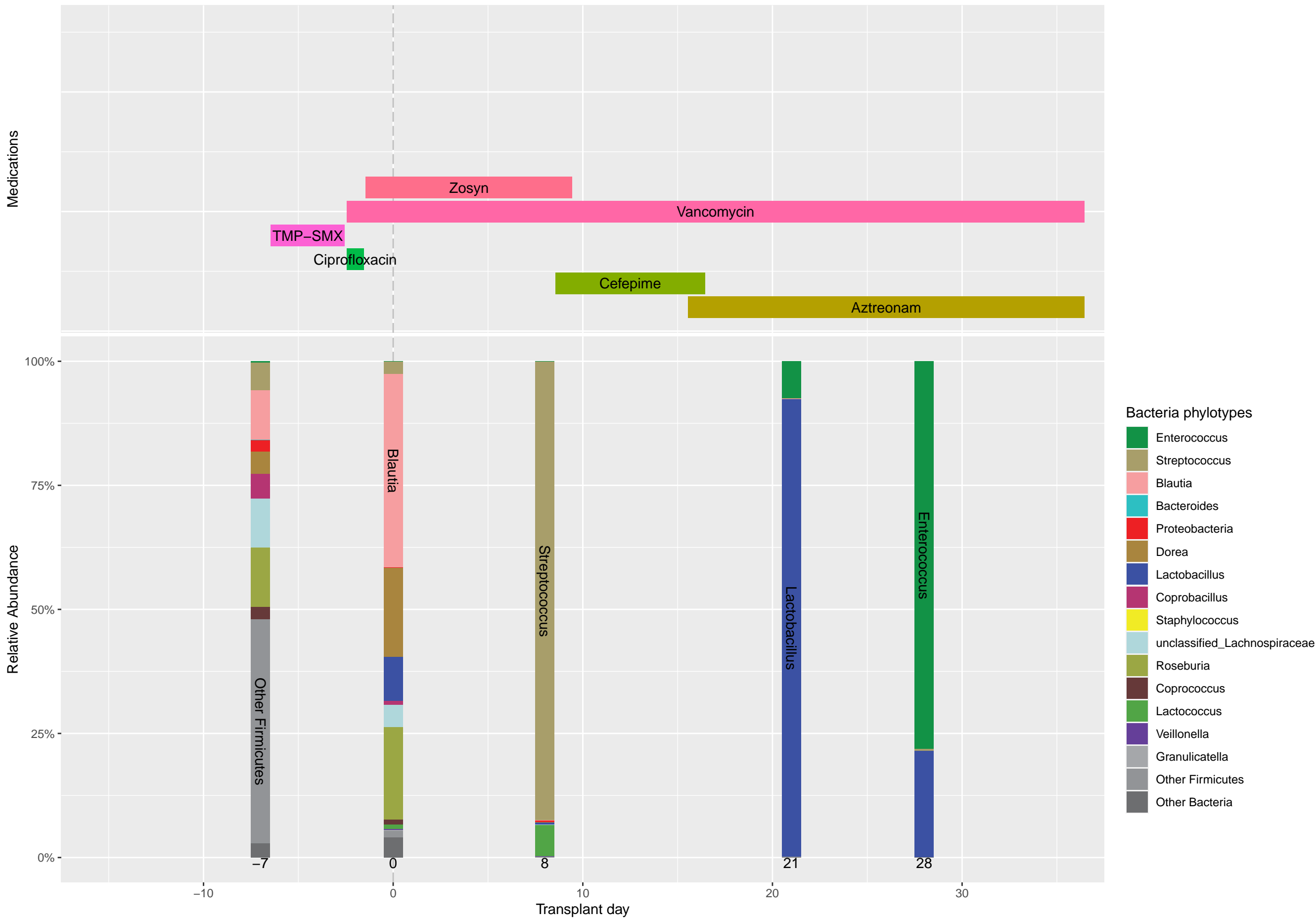
Patient 237 (Lymphoma)



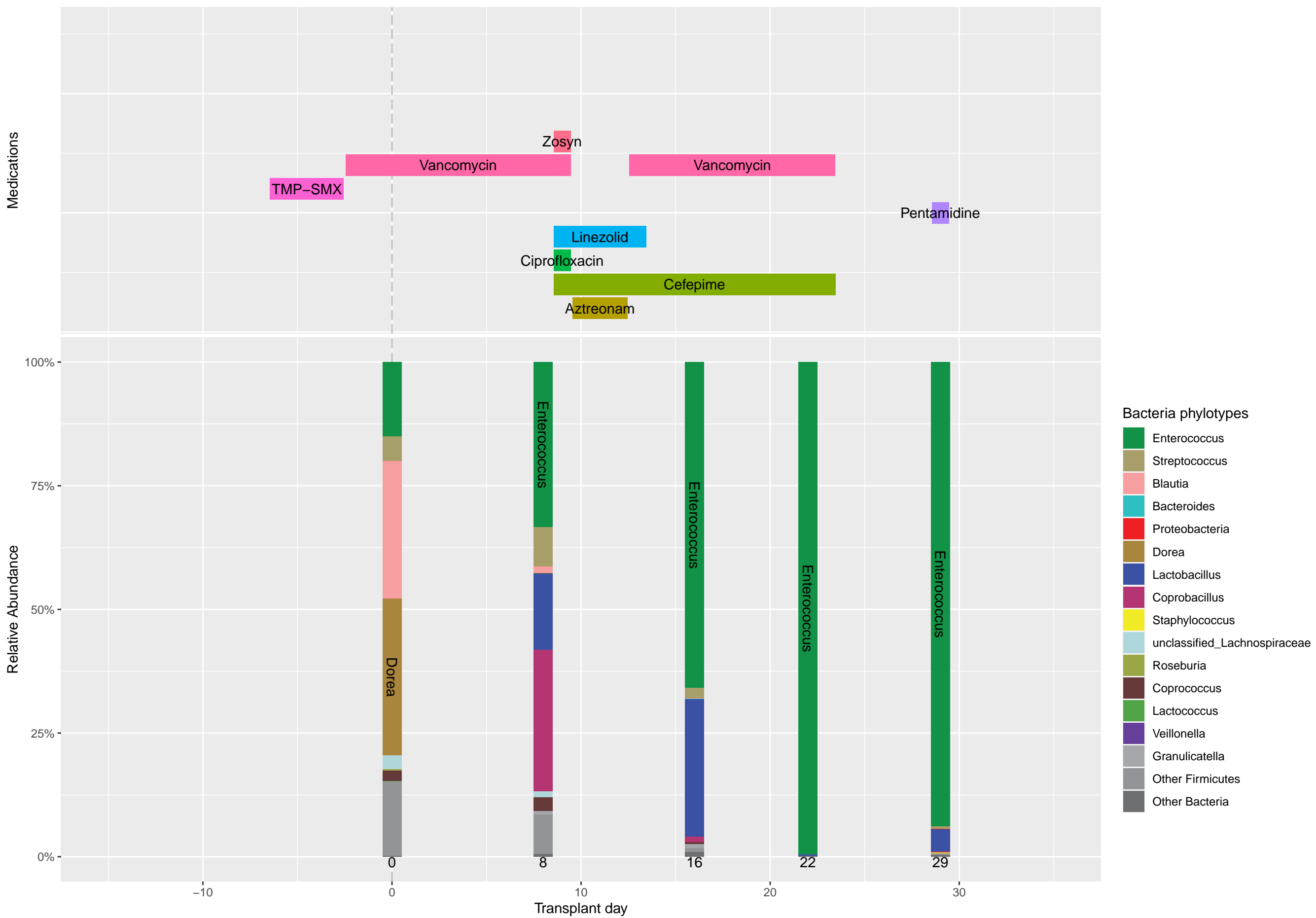
Patient 301 (Leukemia)



Patient 303 (Leukemia)

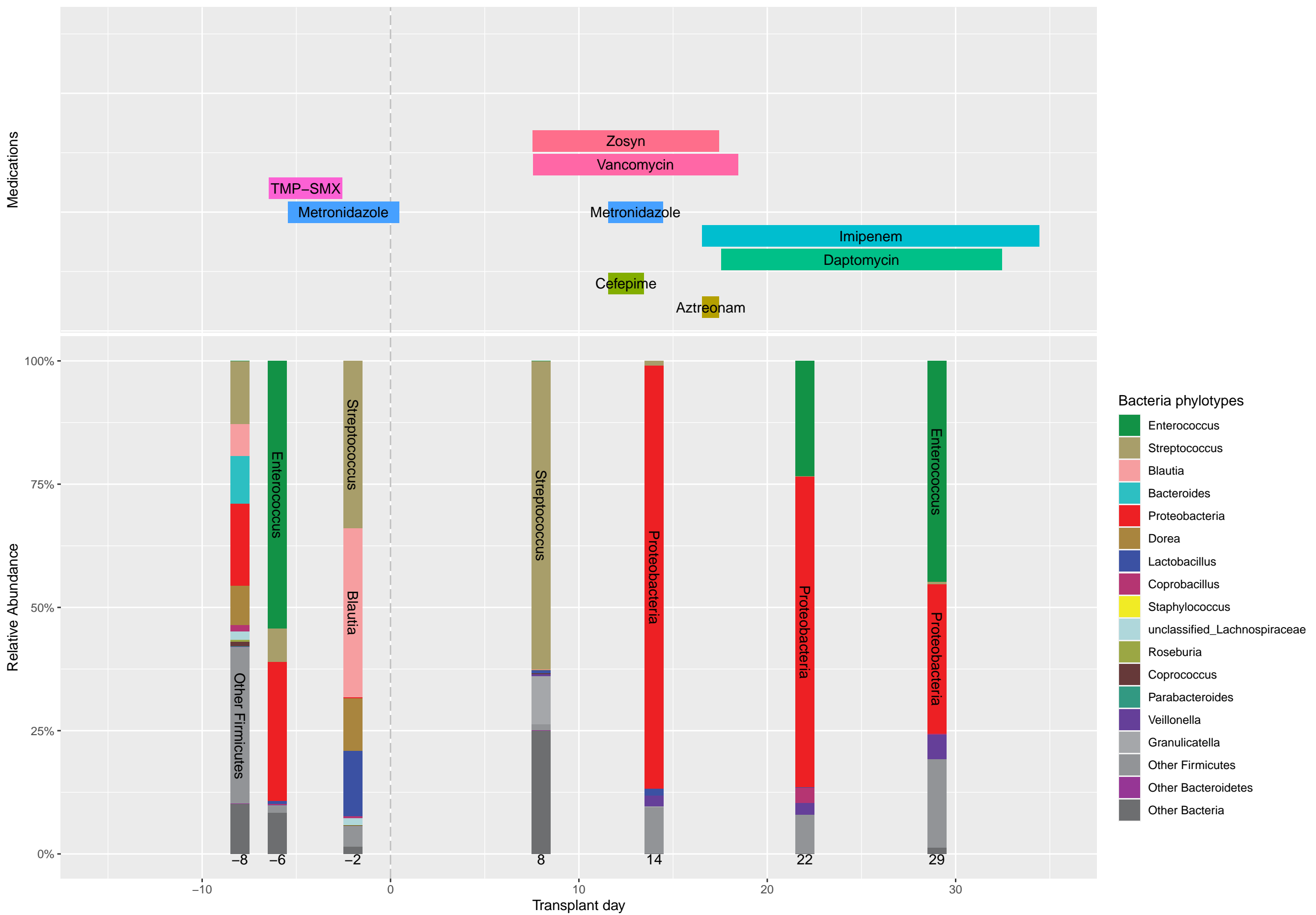


### Patient 304 (Leukemia)





### Patient 305 (Lymphoma)



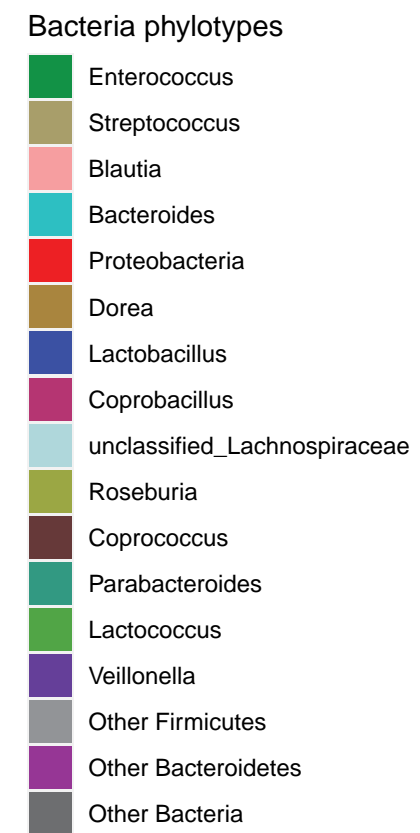
The figure consists of two panels. The top panel is a Gantt chart showing the duration of various antibiotics relative to the transplant day (day 0). The bottom panel is a stacked bar chart showing the growth of different bacterial species at transplant days -5, 2, 9, and 18.

**Antibiotic Treatment (Gantt Chart):**

- Zosyn:** Days -4 to 9 and days 24 to 27.
- Vancomycin:** Days -4 to 9, days 11 to 13, days 17 to 19, days 24 to 25, and days 27 to 36.
- TMP-SMX:** Days -6 to -4.
- Linezolid:** Days -4 to -3, days 8 to 12, and days 16 to 18.
- Metronidazole:** Days 10 to 23.
- Ciprofloxacin:** Days 8 to 9.
- Cefepime:** Days 9 to 22.
- Amikacin:** Days 16 to 21.
- Imipenem:** Days 25 to 36.

**Bacterial Growth (Stacked Bar Chart):**

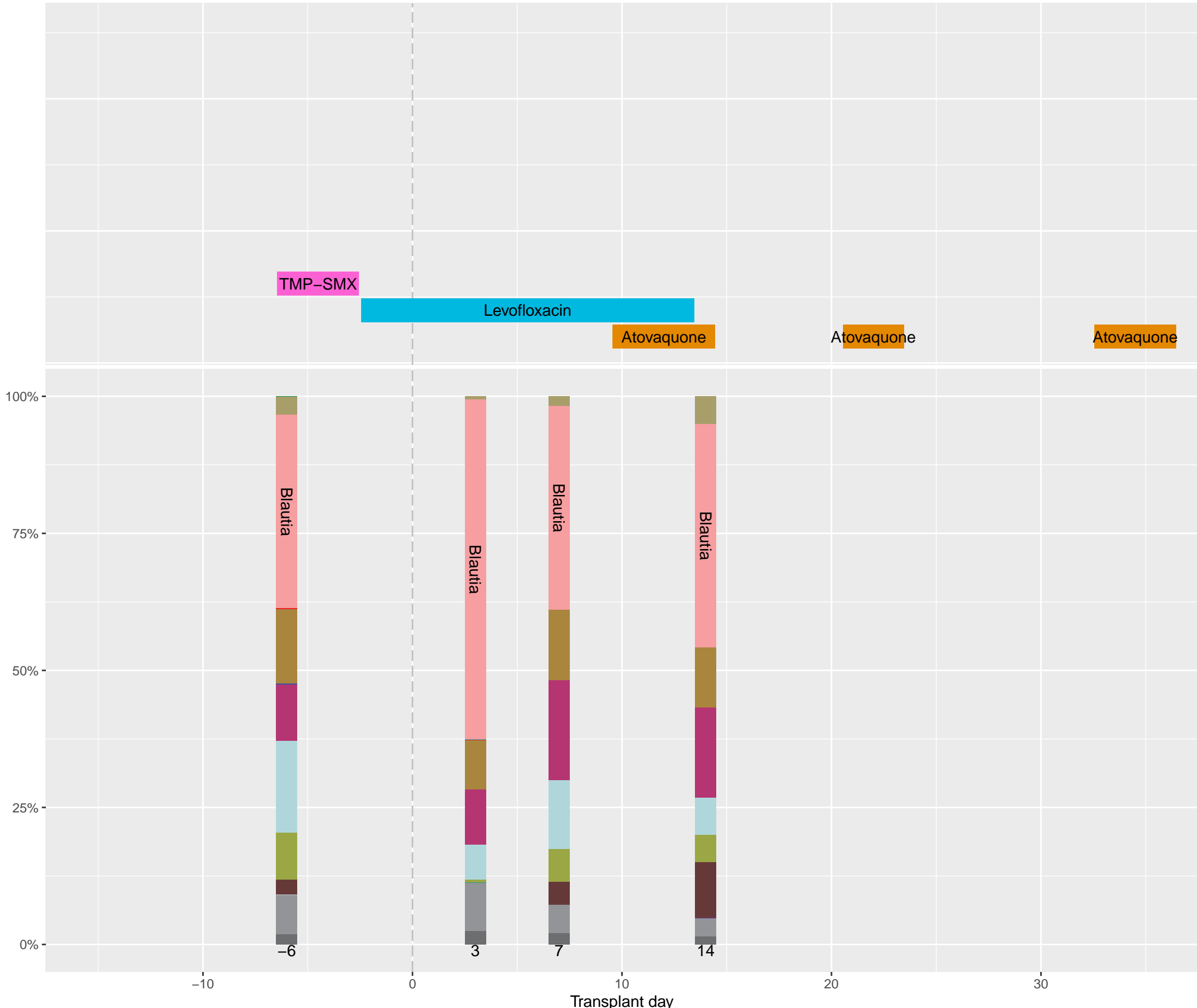
- Day -5:** A complex mixture of species, including a large red segment (likely *Enterococcus*), a pink segment, a blue segment, a brown segment, a purple segment, a green segment, a dark brown segment, a grey segment, and a dark grey segment.
- Day 2:** Dominated by *Enterococcus* (green).
- Day 9:** Dominated by *Enterococcus* (green).
- Day 18:** Dominated by *Enterococcus* (green), with a brown segment at the bottom.



Patient 307 (Lymphoma)

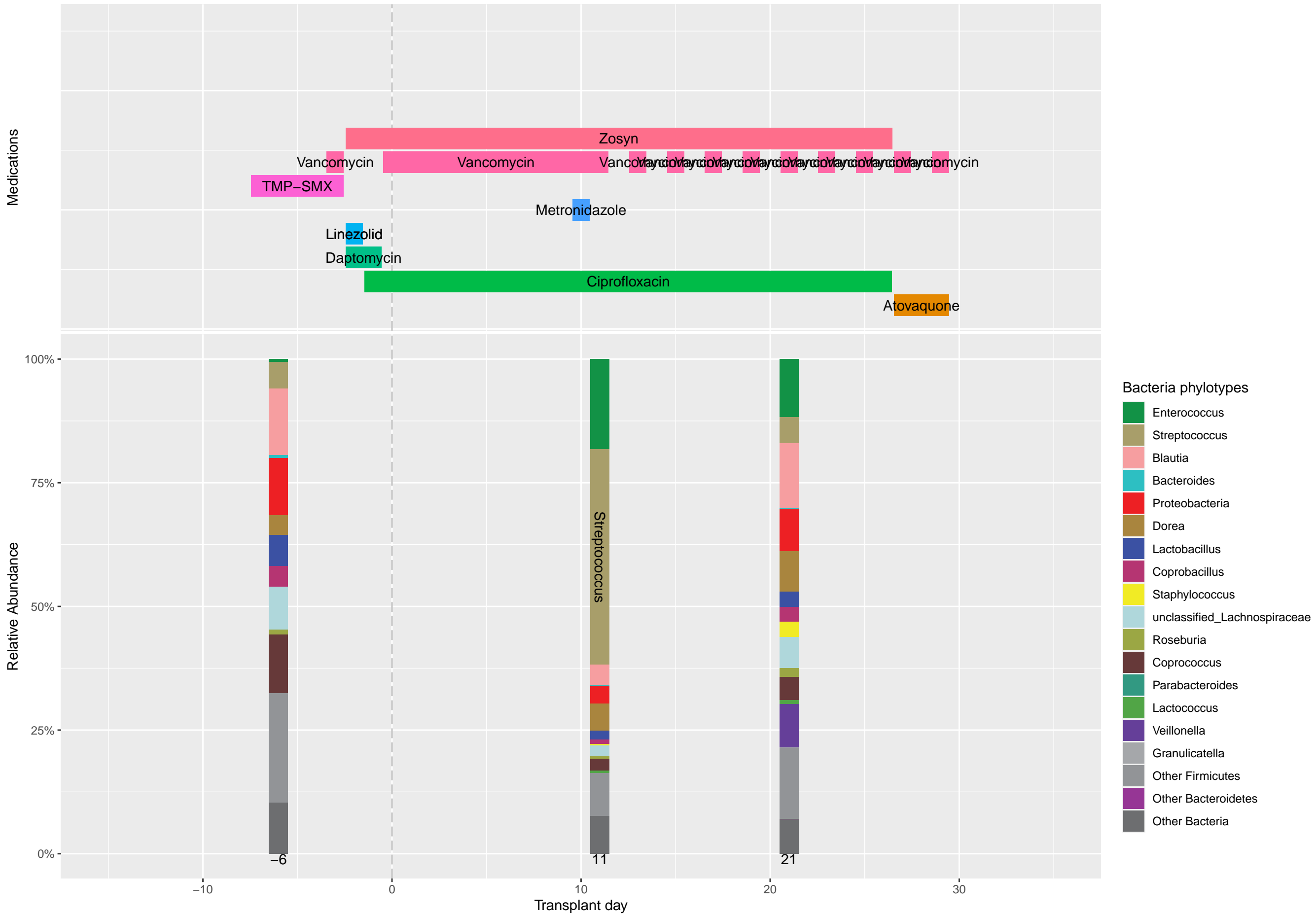
Medications

Relative Abundance

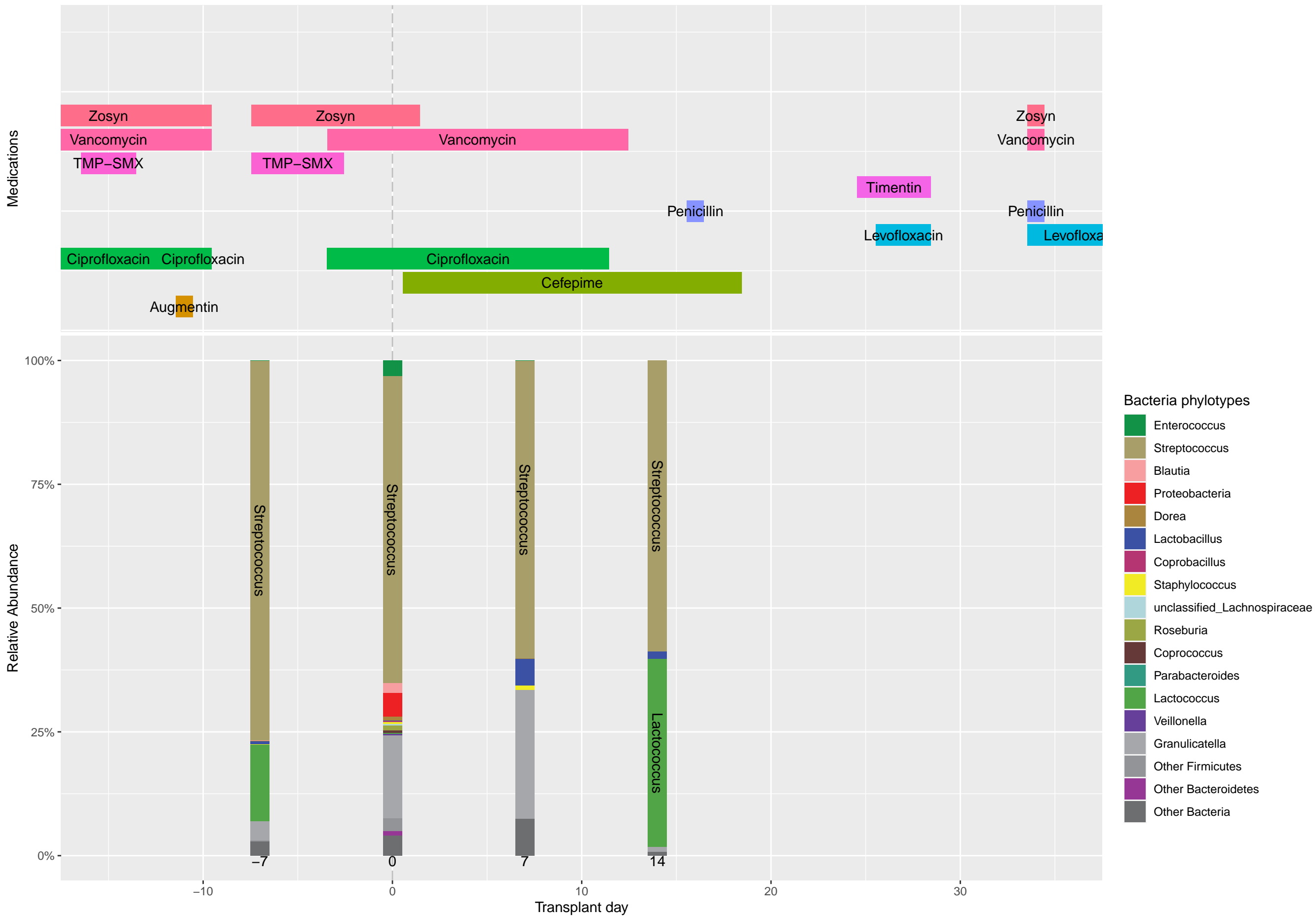


- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Lactobacillus
  - Coprobacillus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coprococcus
  - Parabacteroides
  - Lactococcus
  - Veillonella
  - Granulicatella
  - Other Firmicutes
  - Other Bacteria

Patient 308 (Lymphoma)



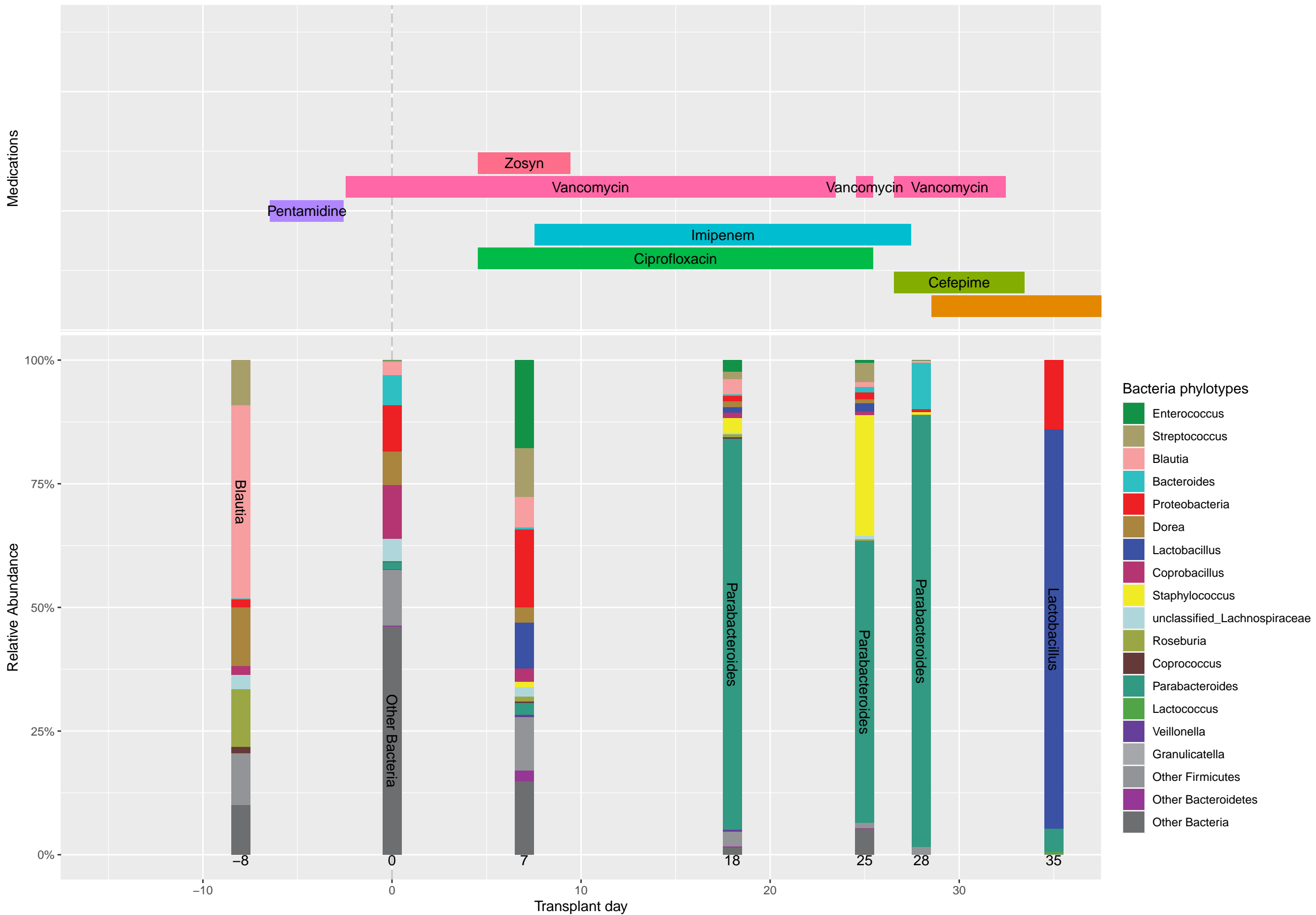
Patient 309 (Leukemia)



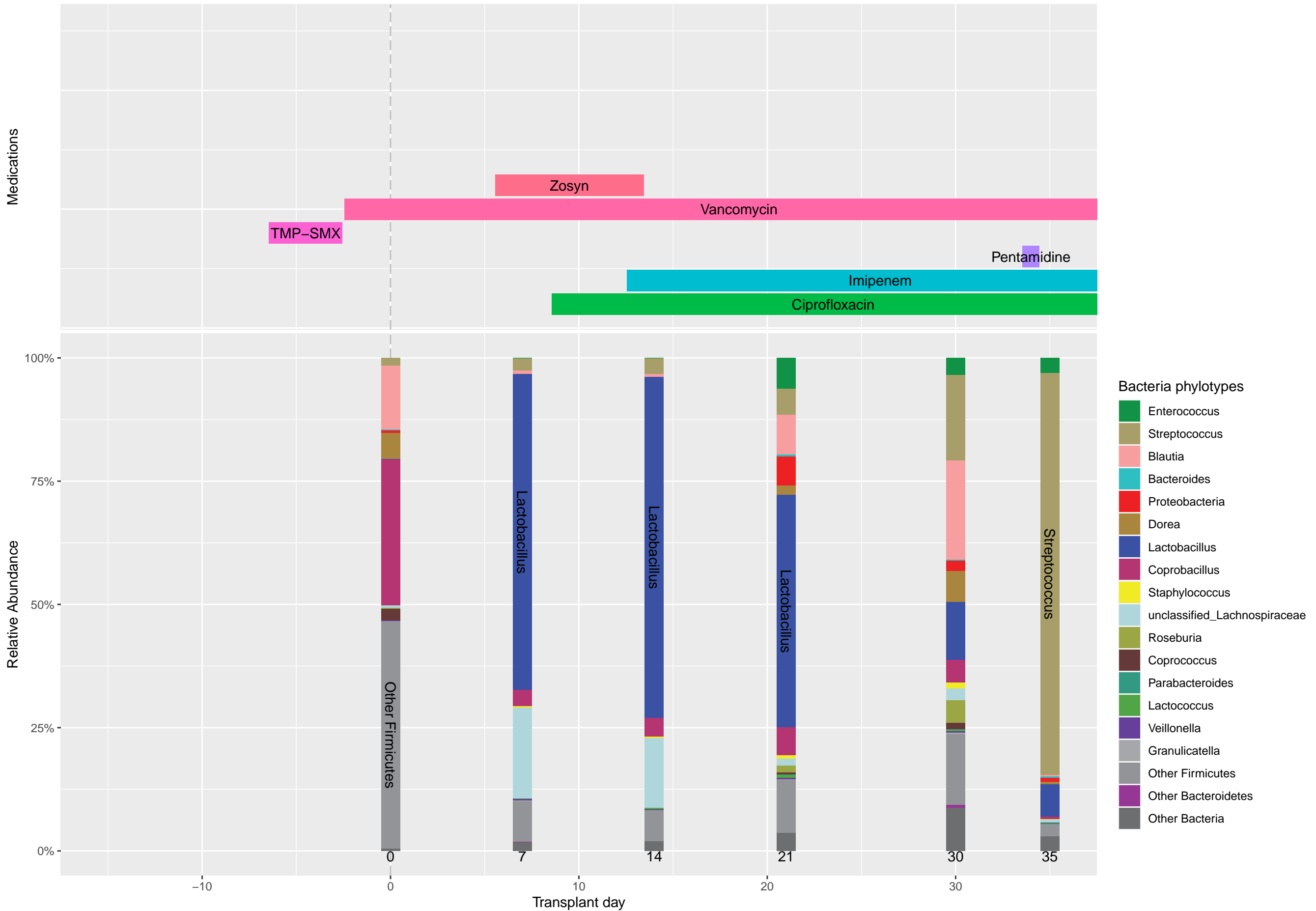
The figure illustrates the changes in gut microbiota composition and the timing of antibiotic therapy following a transplant. The timeline at the top indicates the duration of four antibiotics: Zosyn (red), Vancomycin (blue), Ciprofloxacin (green), and TMP-SMX (blue). The stacked bar chart below shows the relative abundance of various bacterial taxa at five time points: -7 days, 0 days, 7 days, 15 days, and 21 days post-transplant. The taxa are color-coded and labeled within the bars, including Streptococcus, Blautia, and Other Firmicutes.

Enterococcus
Streptococcus
Blautia
Proteobacteria
Dorea
Lactobacillus
Coprobacillus
unclassified_Lachnospiraceae
Roseburia
Coprococcus
Lactococcus
Veillonella
Granulicatella
Other Firmicutes
Other Bacteria

Patient 311 (Other)

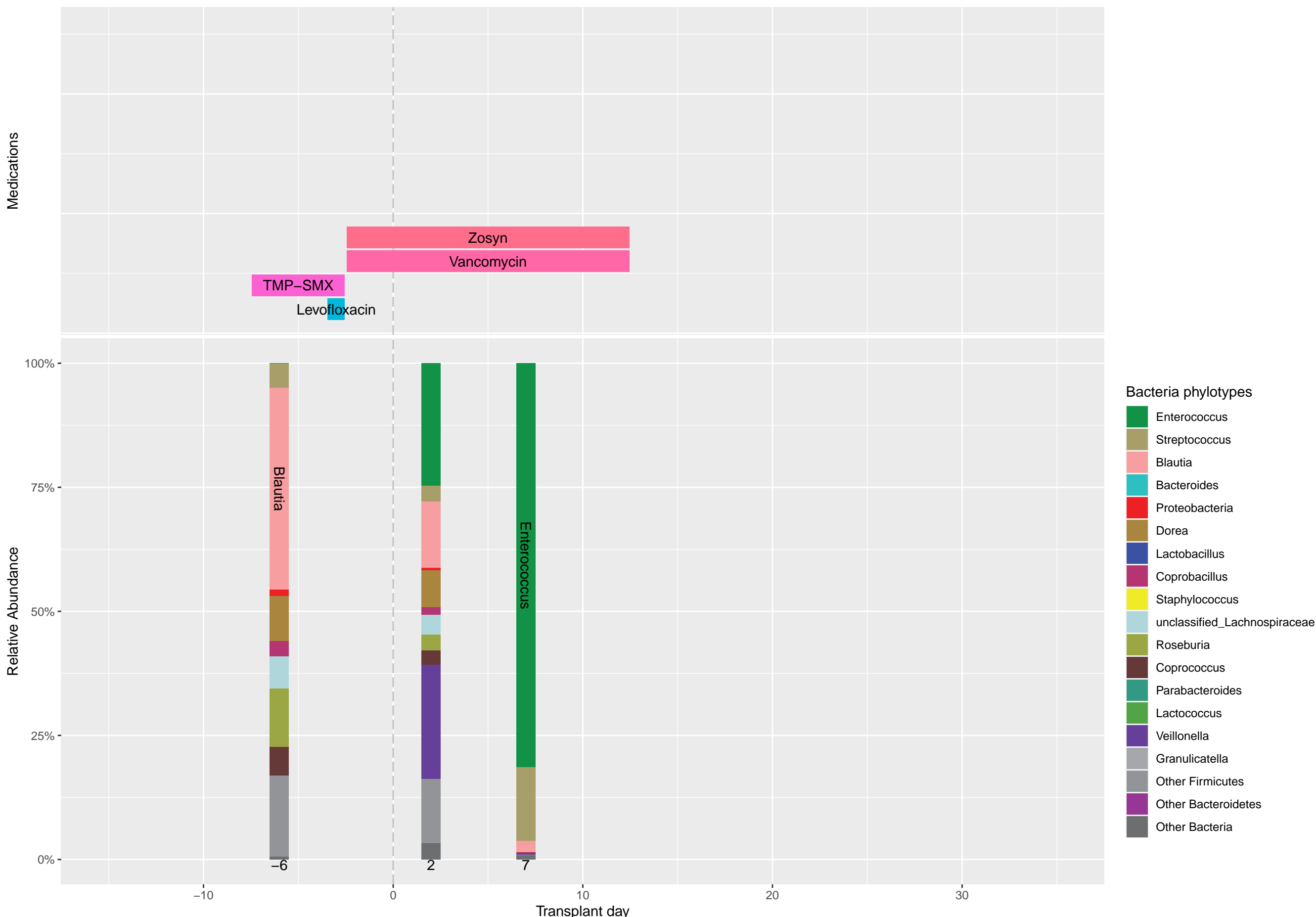


Patient 312 (Lymphoma)





Patient 315 (Lymphoma)



Transplant day

Blautia

Streptococcus

Other Bacteria

TMP-SMX

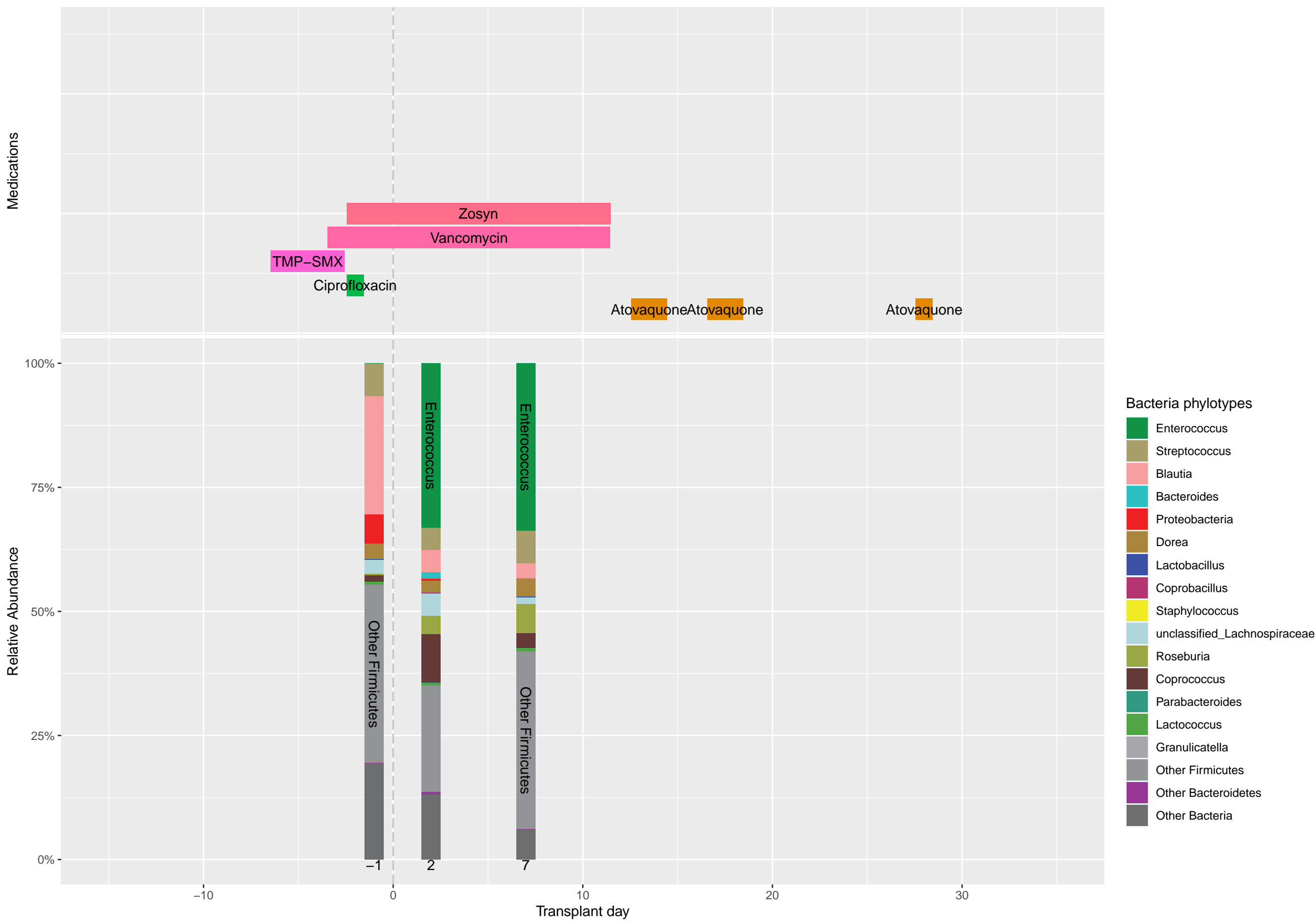
Metronidazole

Levofloxacin

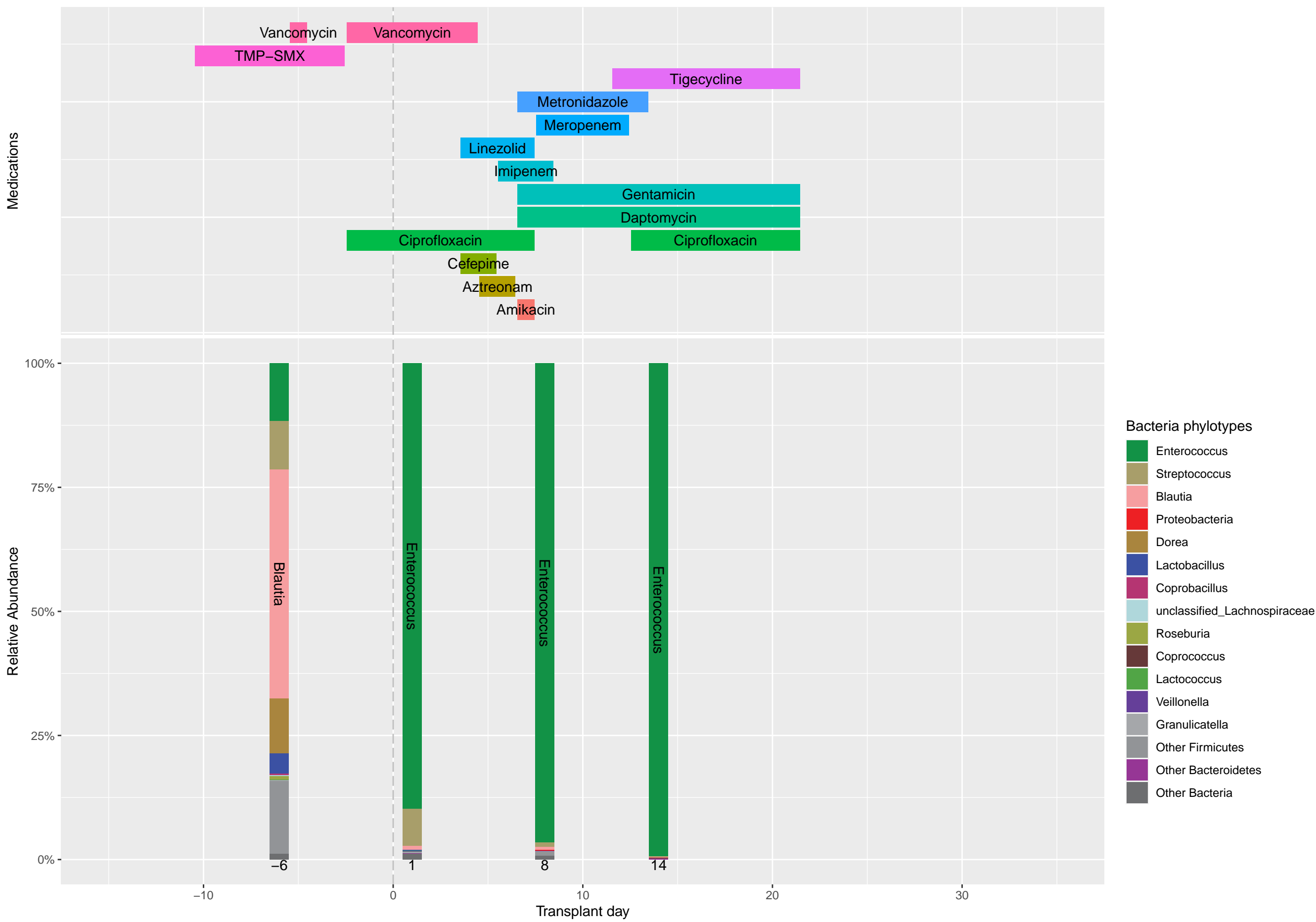
Zosyn

Enterococcus
Streptococcus
Blautia
Proteobacteria
Dorea
Lactobacillus
Coprobacillus
Staphylococcus
unclassified_Lachnospiraceae
Roseburia
Coprococcus
Parabacteroides
Lactococcus
Veillonella
Granulicatella
Other Firmicutes
Other Bacteroidetes
Other Bacteria

Patient 317 (Lymphoma)



Patient 318 (Leukemia)



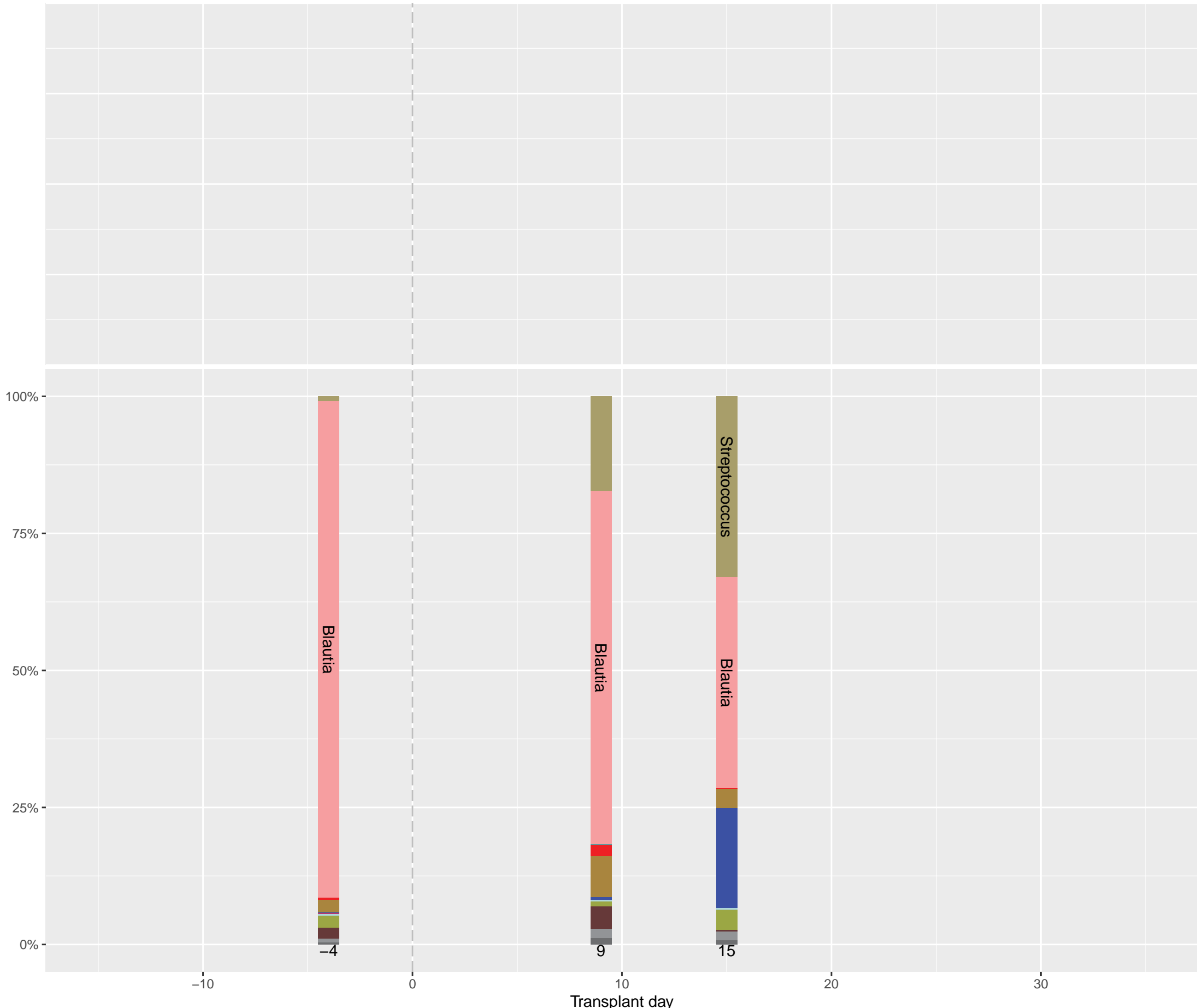
Patient 319 (Lymphoma)

Medications

Relative Abundance

Bacteria phylotypes

- Streptococcus
- Blautia
- Bacteroides
- Proteobacteria
- Dorea
- Lactobacillus
- Coprobacillus
- unclassified\_Lachnospiraceae
- Roseburia
- Coproccoccus
- Lactococcus
- Other Firmicutes
- Other Bacteria



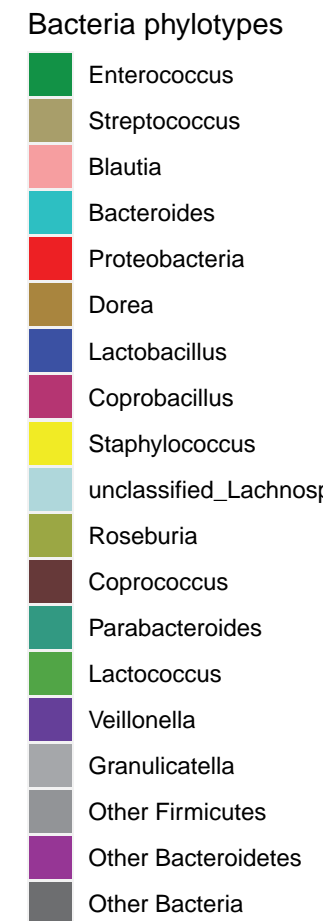
The figure consists of two vertically aligned charts sharing a common x-axis representing 'Transplant day' from -10 to 35.

**Top Chart (Antibiotic Treatment):** Horizontal bars indicate the duration of various antibiotics.

Antibiotic	Start Day (approx.)	End Day (approx.)
Zosyn	7	8
Vancomycin	-2	30
TMP-SMX	-5	-2
Pentamidine	28	29
Meropenem	7	27
Ciprofloxacin	-2	35
Metronidazole	29	35

**Bottom Chart (Bacterial Composition):** Stacked vertical bars show the relative abundance of bacterial taxa at specific transplant days.

Transplant Day	Major Taxa (Relative Abundance)
-1	Blautia (pink), Other Firmicutes (dark brown), Other Firmicutes (grey), Other Firmicutes (light grey), Other Firmicutes (purple), Other Firmicutes (light blue), Other Firmicutes (brown), Other Firmicutes (olive)
7	Coprobacillus (purple), Other Firmicutes (grey), Other Firmicutes (light grey), Other Firmicutes (purple), Other Firmicutes (light blue), Other Firmicutes (brown), Other Firmicutes (olive)
18	Staphylococcus (yellow), Other Firmicutes (grey), Other Firmicutes (light grey), Other Firmicutes (purple), Other Firmicutes (light blue), Other Firmicutes (brown), Other Firmicutes (olive)
21	Streptococcus (olive), Other Firmicutes (grey), Other Firmicutes (light grey), Other Firmicutes (purple), Other Firmicutes (light blue), Other Firmicutes (brown), Other Firmicutes (olive)
29	Staphylococcus (yellow), Other Firmicutes (grey), Other Firmicutes (light grey), Other Firmicutes (purple), Other Firmicutes (light blue), Other Firmicutes (brown), Other Firmicutes (olive)



Patient 321 (Lymphoma)

Medications

Relative Abundance

100%  
75%  
50%  
25%  
0%

-10 0 10 20 30

Transplant day

- Bacteria phylotypes
- Enterococcus
  - Streptococcus
  - Blautia
  - Bacteroides
  - Proteobacteria
  - Dorea
  - Lactobacillus
  - Coprobacillus
  - unclassified\_Lachnospiraceae
  - Roseburia
  - Coproccoccus
  - Parabacteroides
  - Other Firmicutes
  - Other Bacteroidetes
  - Other Bacteria

