Supplementary material

To manuscript

Effects of COVID-19 vaccination and previous infection on Omicron SARS-CoV-2 infection and relation with serology

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Table S1. Vaccines received by study participants, per dose. Participants who did not receive the dose were excluded from the percentage calculation.

		N (%)
Dose 1	AstraZeneca (Vaxzevria)	14585 (34.5)
	BioNTech/ Pfizer (Comirnaty)	17036 (40.3)
	Janssen	4729 (11.2)
	Moderna (Spikevax)	5864 (13.9)
	Unknown	31 (0.1)
Dose 2	AstraZeneca (Vaxzevria)	13505 (32.3)
	BioNTech/ Pfizer (Comirnaty)	19191 (45.9)
	Janssen	115 (0.3)
	Moderna (Spikevax)	7971 (19.0)
	Novavax	2 (0.0)
	Unknown	1072 (2.6)
Dose 3	AstraZeneca (Vaxzevria)	343 (1.0)
	BioNTech/ Pfizer (Comirnaty)	13822 (38.5)
	Janssen	18 (0.1)
	Moderna (Spikevax)	21408 (59.7)
	Novavax	2 (0.0)
	Unknown	264 (0.7)
Dose 4	AstraZeneca (Vaxzevria)	99 (0.8)
	BioNTech/ Pfizer (Comirnaty)	3239 (27.3)
	Janssen	4 (0.0)
	Moderna (Spikevax)	8159 (68.7)
	Novavax	5 (0.0)
	Unknown	374 (3.1)

Table S2. Association between anti-S-antibody concentration in quartiles and risk of infection, crude and adjusted for age, sex, educational level and medical risk group, n = 20,402 participants.

Quartile log-anti-S-antibody concentration	Person-days	Infections	HR (95% CI) crude	HR (95% CI) adjusted
(3,8.82]	101221	318	[ref]	[ref]
(8.82,9.43]	102668	251	0.75 (0.64-0.89)	0.83 (0.70-0.98)
(9.43,10.4]	101896	203	0.59 (0.49-0.70)	0.65 (0.55-0.79)
(10.4,12.3]	102326	78	0.24 (0.19-0.31)	0.29 (0.23-0.37)

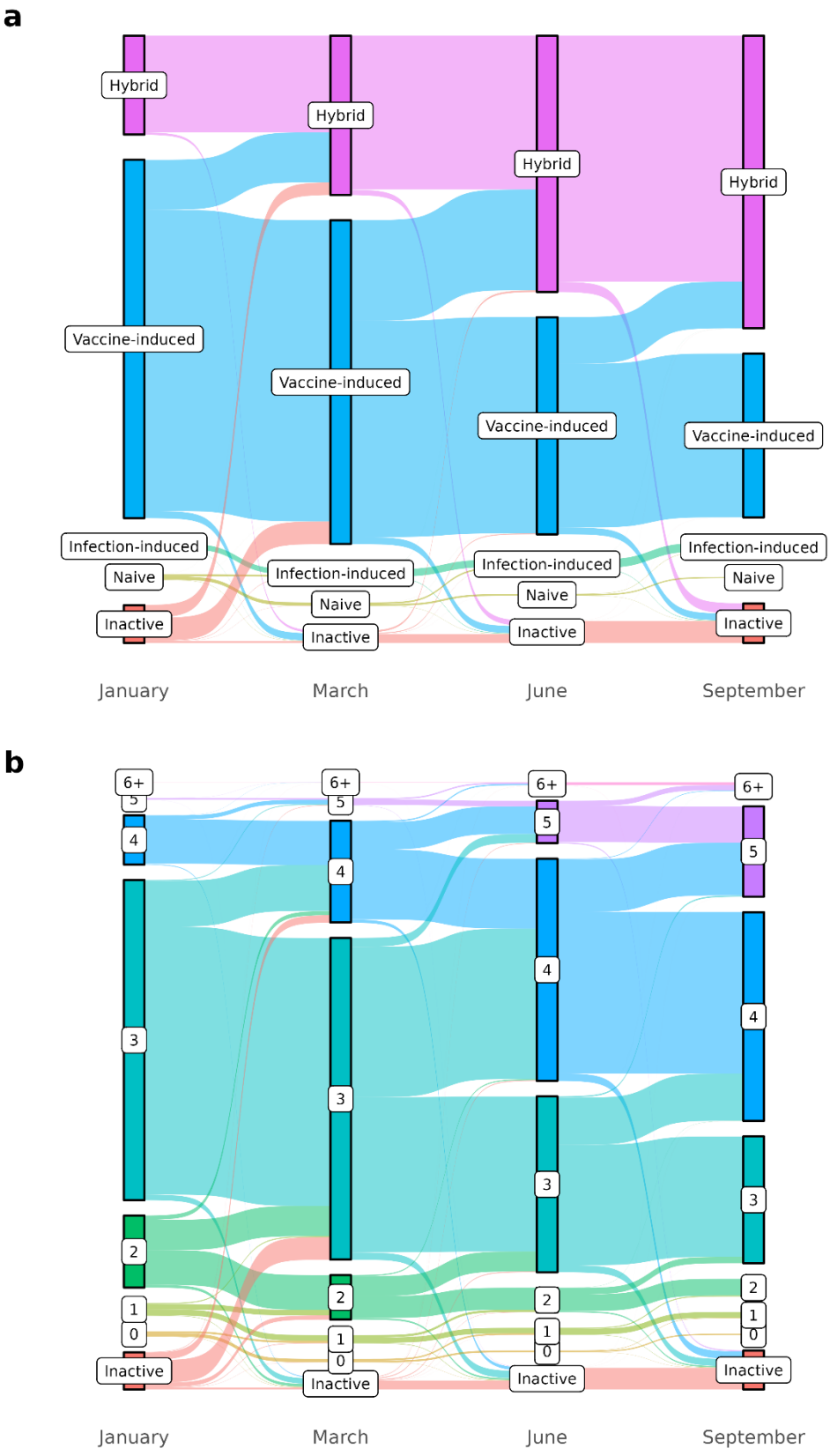

Figure S1. Sankey diagrams showing the changes in the VASCO study population during the study period (January-September 2022), in terms of type of immunity (A) and number of prior immunizing events (B).

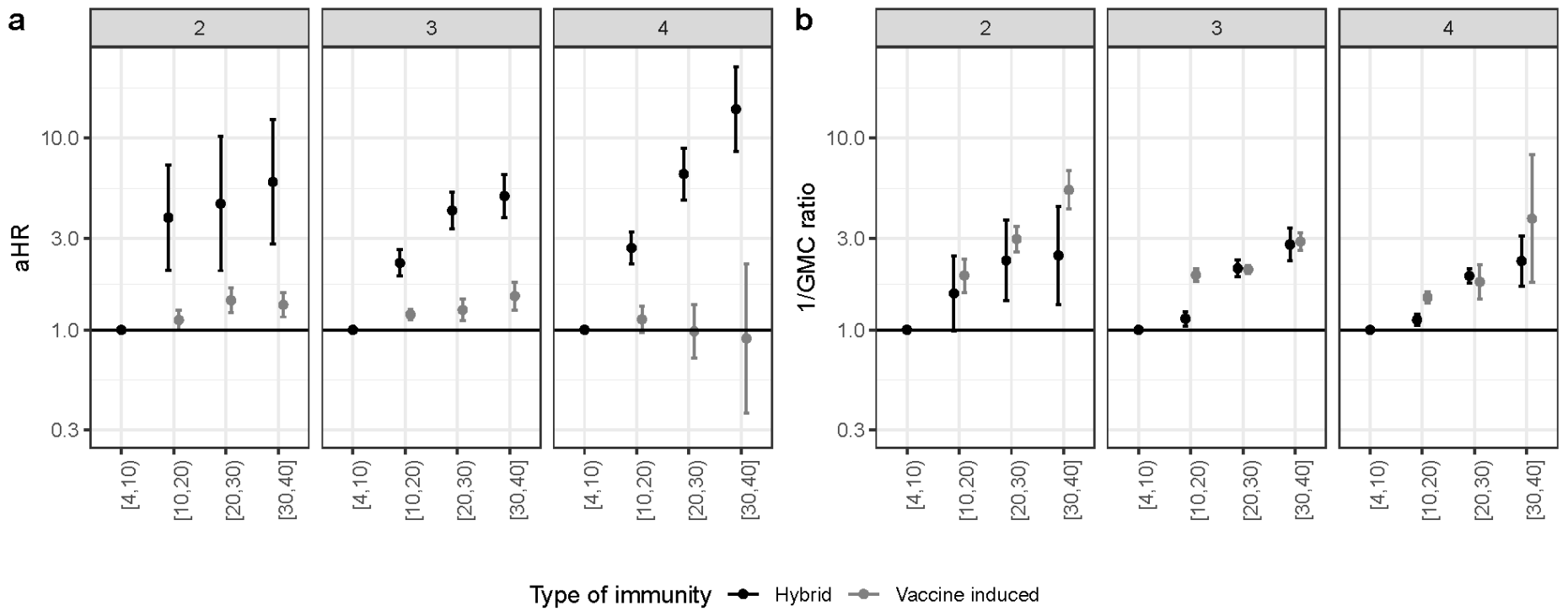

Figure S2. A. Adjusted hazard ratio (aHR) of infection with Omicron SARS-CoV-2 by type of immunizing events, stratified by the number of immunizing events, n = 39,810 participants. B. One divided by the adjusted geometric mean concentration (GMC) ratio of S-antibodies, n = 20,402 participants. In both analyses, 4 to 10 weeks after the last immunizing event was the reference group. The group with 4 immunizing events only includes participants aged 60 and older, because younger people were not eligible for 4 vaccinations. Data are presented as aHR with 95% confidence intervals, adjusted for age, sex, educational level and medical risk group. Numbers between brackets on the x axis represent weeks since the last immunizing event.

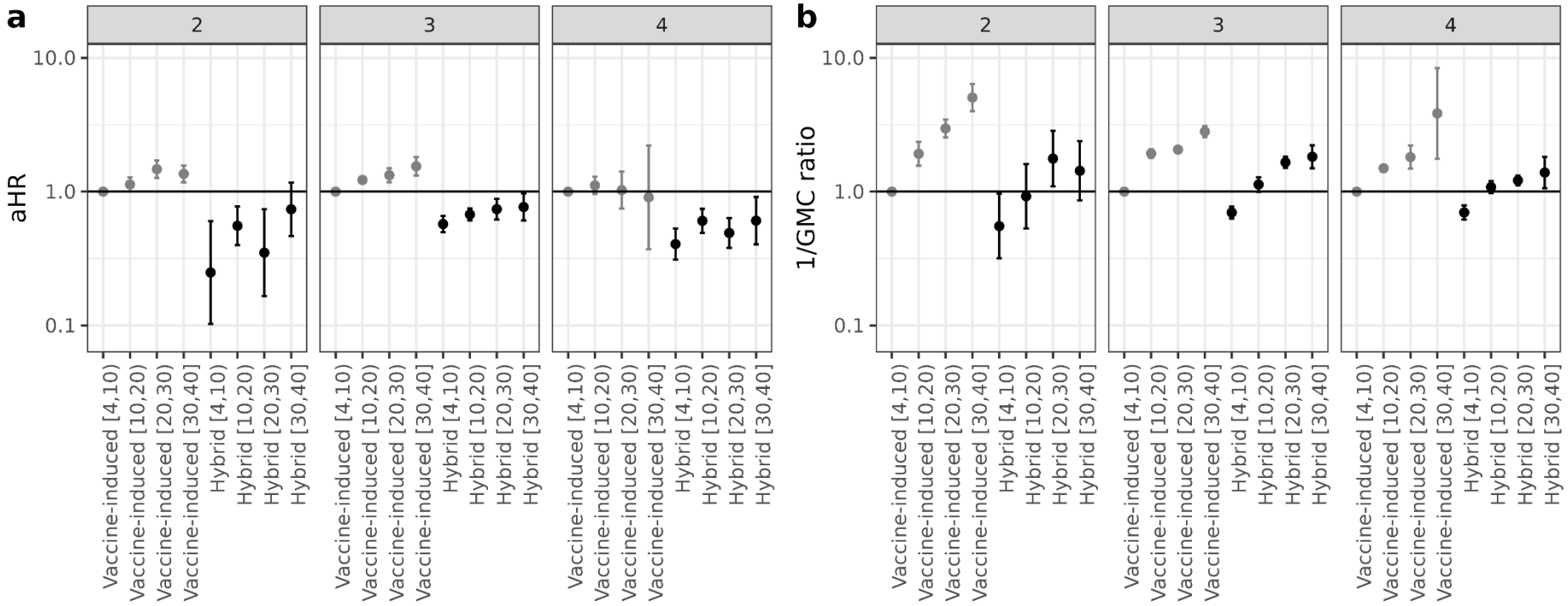

Figure S3: A. Adjusted hazard ratio (HR) of infection with Omicron SARS-CoV-2 by type of immunizing event, stratified by the number of immunizing events, excluding participants with a previous Omicron infection, n = 38,155 participants. B. One divided by the adjusted geometric mean concentration (GMC) ratio of S-antibodies, excluding participants with a previous Omicron infection, n = 15,811 participants. In both analyses, 4 to 10 weeks after the last vaccination for vaccine-only immunity was the reference group. The group with 4 immunizing events only includes participants aged 60 and older, because younger people were not eligible for 4 vaccinations. Data are presented as aHR with 95% confidence intervals, adjusted for age, sex, educational level and medical risk group. Numbers between brackets on the x axis represent weeks since the last immunizing event.