

## Appendix 1. Supplementary Data Tables

**Table A1.** Observing log of all science targets and radial velocity standard stars. The coordinates are those that were targeted as recorded by the instrument. The geocentric-to-heliocentric correction for each of these objects can be reconstructed with these data, along with the longitude, latitude and altitude of the telescope (149.0612°, -31.27336°, 1149.0 m respectively).

MJD	Target	SN	Target RA ° (J2000)	Target Dec ° (J2000)	Exp. time <sup>a</sup> s
58986.399	ESO 125- G 006	2008ia	132.635	-61.248	120
58986.423	WISEA J091517.24-253600.6	2006lu	138.845	-25.596	240
58986.441	NGC 2811	2005am	139.085	-16.309	120
58986.457	NGC 3663	2006ax	170.983	-12.318	120
58986.492	NGC 4493	1994M	187.769	0.593	120
58986.509	MCG -02-34-061	2007ca	187.769	0.593	150
58986.516	HD130322	...	221.886	-0.281	100
58986.540	UGC 08783	AT2017cfc	187.769	0.593	150
58986.563	LEDA 766647	2008cf	211.876	-26.530	240
58986.587	MCG -01-39-003	2005cf	230.412	-7.464	120
58986.603	2MASX J15453055-1309057	ASASSN-16br	236.375	-13.172	180
58986.622	2MASX J15570808-1240252	ASASSN-15il	239.294	-12.682	180
58986.640	CGCG 082-031	ASASSN-15nr	261.650	13.900	150
58986.660	2MASX J17353788+0848387	PTSS-16efw	263.885	8.826	240
58986.679	ARK 530	ASASSN-16lg	267.035	17.625	150
58986.690	HD145897	...	243.462	-11.838	5
58986.709	UGC 11128	ASASSN-17co	272.325	18.271	240
58986.723	NGC 6805	2008fl	294.241	-37.553	90
58986.745	ESO 284- G 032	2008ff	303.505	-44.331	240
58986.766	ESO 107- G 004	2008cc	315.917	-67.135	90
58986.777	WISEA J221043.94-204725.9	2008go	332.661	-20.789	90
58986.788	UGC 11816	2004ey	327.248	0.428	120
58987.375	GALEXASC J090013.19-133803.5	ASASSN-16oz	135.034	-13.609	240
58987.415	KK 1524	2008bc	144.690	-63.982	120
58987.432	ESO 570- G 020	2009aa	170.929	-22.250	180
58987.451	ESO 440- G 001	ATLAS17ajn	176.081	-28.470	180
58987.468	NGC 4038	2007sr	176.081	-28.470	120
58987.492	NGC 4708	2005bo	192.443	-11.103	150
58987.503	NGC 5018	2002dj	198.256	-19.565	90
58987.514	2MASX J13324217-2148034	AT2017zd	203.158	-21.785	120
58987.527	NGC 5304	2005al	207.492	-30.628	90
58987.538	NGC 5468	2002cr	211.630	-5.479	90
58987.555	NGC 5584	2007af	215.580	-0.422	120
58987.580	GALEXASC J151958.89+045417.3	2008051	229.987	4.900	180
58987.594	UGC 10030	2002ck	236.749	-1.011	120
58987.646	NGC 5728	2009Y	220.558	-17.303	150
58987.687	HD145897	...	243.462	-11.838	5
58987.711	...	PS15bif	305.101	-23.745	240
58987.723	NGC 6962	2002ha	311.828	0.282	90
58987.743	2MASX J20375343+0113100	2006fd	309.461	1.202	210
58987.762	NGC 6956	PSNJ2043531	310.960	12.481	240
58987.786	WISEA J210907.40-180607.8	ATLAS16dqf	317.295	-18.120	240
58987.809	WISEA J212342.91-005034.7	2006oa	320.945	-0.863	210
58988.359	NGC 3261	2008fw	157.211	-44.625	120+120 <sup>b</sup>
58988.429	GALEXASC J104848.62-201544.1	ASASSN-16dn	162.194	-20.246	240
58988.501	2MASX J12052488-2123572	ASASSN-16bc	181.354	-21.399	240
58988.524	2MASX J13300119-2758297	ASASSN-16dw	202.482	-27.974	240
58988.543	MRK 1337	2006D	193.140	-9.796	150
58988.560	ESO 578- G 026	2007cc	212.148	-21.587	210
58988.581	ESO 510- G 031	2007cb	209.593	-23.381	210
58988.634	2MASX J14201699-2211186	PS16bby	215.077	-22.211	240
58988.661	NGC 5728	2009Y	215.077	-22.211	240
59044.480	2MFGC 12594	PS16cqa	234.752	9.296	210
59044.492	HD156026	...	259.056	-26.546	5
59044.617	NGC 6928	2004eo	308.230	9.958	180
59044.714	UGCA 430	ASASSN-16jf	339.293	-25.257	180
59044.728	NGC 7311	2005kc	338.499	5.553	180
59044.744	2MASX J22551005-0024333	PS15bjg	343.813	-0.417	150
59044.773	2MASX J23063962-1234238	ASASSN-15pr	346.653	-12.583	240
59044.788	NGC 7721	2007le	354.752	-6.499	150
59044.800	NGC 0191A	2006ej	9.760	-9.051	120
59044.811	NGC 0232	2006et	10.650	-23.580	120

## Observing log. (continued)

MJD	Target	SN	Target RA ° (J2000)	Target Dec ° (J2000)	Exp. time <sup>a</sup> s
59044.823	UGC 00595	2007nq	14.374	-1.368	120
59045.408	GALEXASC J134322.97-195637.5	ATLAS17axb	205.865	-19.935	210
59045.431	2MASX J14271887-0140428	PS16ayd	216.847	-1.680	210
59045.451	SDSS J151354.30+044525.7	ASASSN-16ct	228.466	4.757	240
59045.470	2MFGC 12594	PS16cqa	234.752	9.296	210
59045.547	HD156026	...	259.053	-26.551	5
59045.552	HD145897	...	243.462	-11.837	5
59045.577	NGC 6805	2008fl	294.241	-37.553	90
59045.598	...	PS15bif	305.101	-23.745	240
59045.635	ESO 284- G 032	2008ff	303.505	-44.331	240
59045.659	SDSS J204933.00-004543.0	2007ks	312.395	-0.784	240
59045.679	2MASX J21283758+0113490	2006eq	322.142	1.225	180
59045.695	WISEA J221440.71+050442.3	2007cq	333.652	5.079	180
59045.710	2MASX J22112814-0001456	530086	332.852	-0.020	150
59045.724	NGC 7329	2006bh	339.982	-66.490	60
59045.745	SDSS J224558.32-003855.9	2007pu	341.480	-0.646	240
59045.770	WISEA J225942.70-000048.3	2005ku	344.937	-0.006	240
59045.786	2MASX J23154564-0120135	ASASSN-16hz	348.928	-1.313	120
59045.793	HD220957	...	352.022	-11.450	5
59045.803	NGC 7780	2001da	358.350	8.098	120
59045.816	UGC 12859	2007fb	359.219	5.525	150
59046.398	2MASX J13323577-0516218	ASASSN-16fo	203.132	-5.269	180
59046.417	IC 0986	ASASSN-16bq	212.874	1.265	180
59046.476	HD156026	...	259.056	-26.546	5
59046.478	HD156026	...	259.056	-26.546	5
59046.516	UGC 10030	2002ck	236.749	-1.011	120
59046.584	...	PS15bif	305.101	-23.745	240
59046.596	NGC 6962	2002ha	311.828	0.282	90
59046.610	ESO 107- G 004	2008cc	315.917	-67.135	90
59046.633	2MASX J20375343+0113100	2006fd	309.461	1.202	210
59046.655	WISEA J210907.40-180607.8	ATLAS16dqf	317.295	-18.120	180
59046.677	WISEA J212342.91-005034.7	2006oa	320.945	-0.863	240
59046.698	WISEA J215558.50-010412.9	2006on	329.009	-1.076	180
59046.719	2MFGC 16592	2005lk	329.977	-1.202	210
59046.740	WISEA J223041.16-004634.2	2005ff	337.690	-0.787	210
59046.763	WISEA J224142.06-000812.7	2006py	340.406	-0.128	180
59046.782	MCG -02-60-012	PS15bsq	355.477	-8.617	150
59131.410	NGC 6928	2004eo	308.230	9.958	180
59131.441	SDSS J204853.04+001129.8	2005fn	312.207	0.192	240
59131.470	WISEA J221225.27+005105.3	420100	333.127	0.852	150
59131.480	NGC 7503	2001ic	347.680	7.538	90
59131.485	HD1388	...	4.495	-13.456	5
59131.499	MCG -02-60-012	PS15bsq	355.477	-8.617	150
59131.512	ESO 538- G 013	2005iq	359.671	-18.722	120
59131.525	MCG -02-01-014	2008hj	0.980	-11.176	150
59131.546	MCG -02-02-086	2003ic	10.408	-9.280	150
59131.557	UGC 00607	1999ef	14.704	12.734	120
59131.568	UGC 00595	2007nq	14.374	-1.368	120
59131.582	WISEA J005618.02-013730.9	2006gt	14.087	-1.643	150
59131.596	2MASX J01135716+0022171	2006hx	18.488	0.371	150
59131.607	NGC 0524	2008Q	21.258	9.574	120
59131.623	NGC 0539	2008gg	21.310	-18.156	180
59131.641	NGC 0692	2007st	27.107	-48.667	120
59131.656	ESO 479- G 007	ASASSN-16ip	36.840	-23.947	150
59131.671	NGC 1015	2009ig	39.594	-1.342	150
59131.684	NGC 1309	2002fk	50.579	-15.421	120
59131.705	NGC 1404	2007on	54.712	-35.564	60
59131.720	2MFGC 03182	2009kk	57.405	-3.258	150
59131.734	UGC 02998	2009ab	64.176	2.755	150
59131.747	ESO 552- G 052	2006hb	75.462	-21.129	150
59131.756	NGC 1819	2005el	77.910	5.191	90
59132.435	SDSS J204933.00-004543.0	2007ks	312.395	-0.784	240
59132.458	2MASX J22332338-0121266	PS16evk	338.344	-1.380	210
59132.467	HD220957	...	352.022	-11.450	6
59132.470	HD1338	...	4.495	-13.456	6
59132.484	WISEA J232640.11-005025.9	2006fy	351.662	-0.853	180
59132.500	GALEXASC J235326.18-153921.5	PS15brr	358.318	-15.657	180

## Observing log. (continued)

MJD	Target	SN	Target RA ° (J2000)	Target Dec ° (J2000)	Exp. time <sup>a</sup> s
59132.522	GALEXASC J000703.01-204149.5	PS16fbb	1.755	-20.683	240
59132.542	GALEXASC J003445.02-060936.8	SN2016gmb	8.683	-6.144	240
59132.561	2MASX J01242239+0335168	PS15cku	21.093	3.588	180
59132.578	UGC 00881	2008gl	20.198	4.817	180
59132.591	NGC 0632	1998es	24.349	5.892	150
59132.608	NGC 0809	2006ef	31.061	-8.717	180
59132.619	ESO 478- G 006	2009le	32.294	-23.431	120
59132.632	MCG -01-07-004	ASASSN-15od	35.816	-4.502	150
59132.649	UGC 02019	2010A	38.180	0.644	150
59132.662	IC 1844	1995ak	41.455	3.212	150
59132.672	NGC 1200	2008R	45.912	-11.935	120
59132.688	MCG +00-09-074	2008gp	50.760	1.344	150
59132.703	UGC 02829	2006kf	55.472	8.190	180
59132.717	ESO 549- G 031	2009D	58.626	-19.202	150
59132.732	NGC 1562	ASASSN-16aj	65.431	-15.771	150
59132.747	UGC 03236	2009ad	75.873	6.670	180
59132.766	2MASXi J0603164-265353	SN2016hpx	90.830	-26.886	240
59133.439	2MASX J21283758+0113490	2006eq	322.142	1.225	180
59133.453	WISEA J221043.94-204725.9	2008go	332.661	-20.789	120
59133.467	WISEA J224142.06-000812.7	2006py	340.406	-0.128	150
59133.485	WISEA J233424.11-005324.7	2007ra	353.590	-0.888	150
59133.502	WISEA J235420.72-005501.0	2007om	358.585	-0.933	180
59133.509	HD1388	...	4.495	-13.456	5
59133.511	HD220957	...	352.020	-11.451	5
59133.527	2MASX J00343398-0112577	2007ht	8.623	-1.210	180
59133.543	WISEA J011058.06+001634.1	2005kt <sup>c</sup>	17.734	0.288	150
59133.558	WISEA J012648.45-011417.0	2005hj	21.710	-1.253	180
59133.571	IC 0126	1993ae	22.420	-1.976	150
59133.593	LEDA 5069093	2008fr	17.969	14.641	240
59133.608	GALEXASC J013415.00-174836.1	MASTERJ0134	23.561	-17.811	180
59133.626	NGC 0799	2004dt	30.551	-0.101	150
59133.640	GALEXASC J021558.44+121415.2	PS15coh	33.993	12.221	210
59133.654	2MASX J02491020+1436036	AT2017ns	42.280	14.615	150
59133.668	UGC 02320 NOTES01	2003iv	42.560	12.826	120
59133.678	CGCG 415-040	ATLAS16dwb	44.367	5.989	120
59133.691	2MASX J02353437-0603496	ASASSN-15uw	38.887	-6.081	150
59133.706	ESO 545- G 038	2005lu	39.035	-17.249	150
59133.720	2MASX J03013238-1501028	AT2017lm	45.375	-14.994	150
59133.735	MCG -01-09-006	2005eq	47.228	-7.047	150
59133.750	2MASX J03472342+0052316	PS15cze	56.829	0.881	180
59133.767	CGCG 391-014	2007jh	54.029	1.085	210
59234.480	HD25723	...	61.095	-12.794	5
59234.487	HD25723	...	61.096	-12.796	5
59234.511	ESO 480-IG 021	2008fu	45.627	-24.439	180
59234.534	...	100405	53.642	-27.324	180
59234.548	ESO 552- G 052	2006hb	75.462	-21.129	150
59234.570	...	Gaia16agf	98.540	-25.173	240
59234.586	ESO 492- G 002	2009ag	107.865	-26.679	150
59234.600	IC 0494	2010H	121.573	1.050	150
59234.615	NGC 2618	2008bi	128.959	0.678	90
59234.628	ESO 018- G 018	2007as	141.910	-80.199	120
59234.641	NGC 2765	2008hv	136.879	3.371	90
59234.655	2MASX J08325728-0351295	MASTEROTJ08	128.232	-3.879	120
59234.665	NGC 2935	1996Z	144.130	-21.132	90
59234.729	MRK 1337	2006D	193.140	-9.796	120
59235.553	UGC 03738	ASASSN-16ay	108.061	7.217	180
59235.567	UGC 03787	2003ch	109.523	9.719	150
59235.580	UGC 04455	2007bd	127.856	-1.219	150
59235.595	NGC 2765	2008hv	136.879	3.371	120
59235.611	NGC 2986	1999gh	146.132	-21.252	90
59235.622	NGC 2962	1995D	145.260	5.147	120
59235.640	WISEA J095918.72-192823.2	2007al	149.842	-19.474	210
59235.658	CGCG 063-098	ASASSN-15hg	148.449	9.176	150
59235.675	UGC 05586 NED02	PS16bnz	155.173	-2.451	180
59235.749	MCG -02-30-003	ASASSN-17aj	173.276	-10.215	150+120 <sup>b</sup>
59236.439	2MASX J02320134-2639576	AT2016htm	37.986	-26.668	180
59236.455	LEDA 170061	ASASSN-15bc	61.592	-8.879	150

## Observing log. (continued)

MJD	Target	SN	Target RA ° (J2000)	Target Dec ° (J2000)	Exp. time <sup>a</sup> s
59236.475	ARP 327 NED04	2004gc	80.477	6.680	180
59236.528	2MFGC 04279	PS15cwx	78.686	7.025	180
59236.544	MCG -02-16-004	ASASSN-15ss	93.137	-14.231	180
59236.568	ESO 308- G 025	2008bq	100.270	-38.054	150
59236.573	HD52265	...	105.075	-5.367	10
59236.600	ESO 561- G 018	2008hu	122.248	-18.678	180
59236.622	2MASX J09443215-1218233	AT2017yk	146.147	-12.314	150
59236.638	WISEA J100313.52+015343.0	360156	150.789	1.886	150
59236.651	LCRS B100813.8-033156	SN2017civ	152.671	-3.775	120
59236.660	UGC 05586 NED02	PS16bnz	155.173	-2.451	60
59236.668	NGC 3388	2009al	162.818	8.587	60
59236.679	NGC 3332	2005ki	160.095	9.164	90
59236.694	NGC 3905	2009ds	177.287	-9.751	120
59236.708	IC 3284	2008ar	186.142	10.833	150
59236.726	MRK 1337	2006D	193.140	-9.796	150
59236.744	CGCG 044-042	ASASSN-15lg	198.898	3.473	210
59236.759	UGC 08204	SN2017hn	196.930	6.354	150
59237.440	2MASX J02112819-1630409	AT2016htn	32.853	-16.526	180
59237.459	...	2013go	51.937	-28.488	240+90 <sup>b</sup>
59237.507	GALEXASC J032942.01-275237.5	080064	52.409	-27.867	240
59237.526	2MASX J04422451-2143312	AT2016aj	70.602	-21.725	240
59237.558	WISEA J051734.55-234659.7	2006is	79.393	-23.803	300
59237.580	ESO 125- G 006	2008ia	132.635	-61.248	120
59237.593	NGC 2811	2005am	139.085	-16.309	120
59237.607	KK 1524	2008bc	144.690	-63.982	120
59237.629	2MASX J09583540+0044336	PS15cms	149.627	0.743	180
59237.644	CGCG 036-091	PS16fa	154.799	4.764	150
59237.660	NGC 3261	2008fw	157.211	-44.625	90
59237.679	WISEA J103928.52+051101.2	2006al	159.853	5.182	180
59237.694	2MASX J10480747+0010017	PS16axi	162.055	0.169	150
59237.712	LCRS B105301.1-030602	PS16em	163.905	-3.380	210
59237.726	2MASX J11253836+0720042	PS17bii	171.399	7.321	150
59237.739	CGCG 071-025	PS15aai	191.212	9.750	150
59237.762	LCRS B134713.8-024957	PS17akj	207.442	-3.087	240

<sup>a</sup> Exposure times are listed per observation frame. Galaxies were always observed in three frames, whereas stars were a single frame.

<sup>b</sup> Occasionally, the same object was observed more than once on the same night. Since these data are reduced (coadded) to a single data cube, we quote the one record here but with the individual exposure times listed separately.

<sup>c</sup> SN 2005kt was in Pantheon, but not Pantheon+ as the Type Ia classification is not secure (Sako *et al.*, 2018; Carr *et al.*, 2022). Thus, the host and coordinates are taken from the NASA/IPAC Extragalactic Database.

**Table A2.** Redshift results. For each Type Ia SN we targeted, its Pantheon (source catalogue) ID is listed along with its host galaxy ID if it has one. Also listed is the redshift from the main analysis ( $z_{\text{hel}}^{\text{WiFeS}}$ ) and the number of spaxels it was measured from ( $N_z$ ), along with the redshift from the central region only ( $z_{\text{hel,centre}}^{\text{WiFeS}}$ ). The corresponding redshift from Pantheon+ ( $z_{\text{hel}}^{\text{Pantheon+}}$ ) is shown along with its difference from  $z_{\text{hel}}^{\text{WiFeS}}$ .

SN	Host	$z_{\text{hel}}^{\text{WiFeS}}$	$N_z$	$z_{\text{hel,centre}}^{\text{WiFeS}}$	$z_{\text{hel}}^{\text{Pantheon+}}$	$z_{\text{hel}}^{\text{WiFeS}} - z_{\text{hel}}^{\text{Pantheon+}}$
1993ae	IC 0126	0.019 776	15	0.019 780	0.019 667	$1.1 \times 10^{-4}$
1994M	NGC 4493	0.023 161	23	0.023 160	0.023 083	$7.8 \times 10^{-5}$
1995ak	IC 1844	0.022 815	71	0.022 730	0.022 699	$1.2 \times 10^{-4}$
1995D	NGC 2962	0.006 558	23	0.006 550	0.006 561	$-3.2 \times 10^{-6}$
1996Z	NGC 2935	0.007 548	72	0.007 540	0.007 565	$-1.7 \times 10^{-5}$
1998es	NGC 0632	0.010 633	23	0.010 620	0.010 571	$6.2 \times 10^{-5}$
1999ef	UGC 00607	0.038 941	16	0.038 930	0.038 857	$8.4 \times 10^{-5}$
1999gh	NGC 2986	0.007 743	37	0.007 710	0.007 705	$3.8 \times 10^{-5}$
2001da	NGC 7780	0.017 335	15	0.017 330	0.017 381	$-4.6 \times 10^{-5}$
2001ic	NGC 7503	0.044 123	21	0.044 130	0.044 089	$3.4 \times 10^{-5}$
2002ck	UGC 10030	0.029 827	29	0.029 815	0.029 742	$5.8 \times 10^{-5}$
2002cr	NGC 5468	0.009 452	32	0.009 470	0.009 417	$3.5 \times 10^{-5}$
2002dj	NGC 5018	0.009 375	35	0.009 400	0.009 37	$5.1 \times 10^{-6}$
2002fk	NGC 1309	0.007 185	79	0.007 180	0.007 185	$-4.4 \times 10^{-7}$
2002ha	NGC 6962	0.014 109	67	0.014 035	0.014 07	$6.6 \times 10^{-5}$
2003ch	UGC 03787	0.028 702	17	0.028 890	0.028 62	$8.2 \times 10^{-5}$
2003ic	MCG -02-02-086	0.055 435	31	0.055 340	0.055 359	$7.6 \times 10^{-5}$
2003iv	UGC 02320 NOTES01	0.034 504	22	0.034 520	0.034 26	$2.4 \times 10^{-4}$
2004dt	NGC 0799	0.019 505	19	0.019 550	0.019 418	$8.7 \times 10^{-5}$
2004eo	NGC 6928	0.015 791	111	0.015 795	0.015 464	$3.0 \times 10^{-4}$
2004ey	UGC 11816	0.015 832	13	0.015 750	0.015 834	$-1.7 \times 10^{-6}$
2004gc	ARP 327 NED04	0.031 471	16	0.031 490	0.031 92	$-4.5 \times 10^{-4}$
2005al	NGC 5304	0.012 454	12	0.012 480	0.0124	$5.4 \times 10^{-5}$
2005am	NGC 2811	0.007 095	162	0.007 105	0.007 899	$-8.1 \times 10^{-4}$
2005bo	NGC 4708	0.013 902	31	0.013 910	0.013 896	$5.9 \times 10^{-6}$
2005cf	MCG -01-39-003	0.006 651	54	0.006 660	0.006 43	$2.2 \times 10^{-4}$
2005el	NGC 1819	0.014 835	64	0.014 840	0.014 83	$4.5 \times 10^{-6}$
2005eq	MCG -01-09-006	0.029 096	25	0.029 130	0.028 952	$1.4 \times 10^{-4}$
2005ff	WISEA J223041.16-004634.2	0.089 810	1	0.089 690	0.089 79	$2.0 \times 10^{-5}$
2005fn	SDSS J204853.04+001129.8	0.095 310	1	0.095 270	0.0951	$2.1 \times 10^{-4}$
2005hj	WISEA J012648.45-011417.0	0.057 517	3	0.057 470	0.057 385	$1.3 \times 10^{-4}$
2005iq	ESO 538- G 013	0.034 126	15	0.034 110	0.034 043	$8.3 \times 10^{-5}$
2005kc	NGC 7311	0.015 125	35	0.015 090	0.015 09	$3.5 \times 10^{-5}$
2005ki	NGC 3332	0.019 584	20	0.019 560	0.019 458	$1.3 \times 10^{-4}$
2005kt <sup>a</sup>	WISEA J011058.06+001634.1	0.065 360	2	0.065 380	0.065 404	$-4.4 \times 10^{-5}$
2005ku	WISEA J225942.70-000048.3	0.045 328	22	0.045 440	0.045 248	$8.0 \times 10^{-5}$
2005lk	2MFGC 16592	0.104 400	1	0.104 220	0.104 161	$2.4 \times 10^{-4}$
2005lu	ESO 545- G 038	0.032 091	22	0.032 080	0.032 189	$-9.8 \times 10^{-5}$
2006al	WISEA J103928.52+051101.2	0.067 770	1	0.067 760	0.067 802	$-3.2 \times 10^{-5}$
2006ax	NGC 3663	0.016 722	29	0.016 750	0.016 495	$2.3 \times 10^{-4}$
2006bh	NGC 7329	0.010 894	27	0.010 900	0.010 767	$1.3 \times 10^{-4}$
2006D	MRK 1337	0.008 491	169	0.008 433	0.008 53	$-4.6 \times 10^{-6}$
2006ef	NGC 0809	0.017 959	14	0.017 940	0.017 812	$1.5 \times 10^{-4}$
2006ej	NGC 0191A	0.020 439	18	0.020 360	0.020 38	$5.9 \times 10^{-5}$
2006eq	2MASX J21283758+0113490	0.049 472	12	0.049 520	0.049 408	$2.6 \times 10^{-5}$
2006et	NGC 0232	0.022 764	25	0.022 640	0.022 639	$1.2 \times 10^{-4}$
2006fd	2MASX J20375343+0113100	0.079 965	21	0.080 035	0.079 948	$5.3 \times 10^{-5}$
2006fy	WISEA J232640.11-005025.9	0.082 766	5	0.082 730	0.082 734	$3.2 \times 10^{-5}$
2006gt	WISEA J005618.02-013730.9	0.044 810	4	0.044 710	0.044 799	$1.1 \times 10^{-5}$
2006hb	ESO 552- G 052	0.015 141	43	0.015 140	0.014 957	$2.1 \times 10^{-4}$
2006hx	2MASX J01135716+0022171	0.045 520	6	0.045 480	0.045 389	$1.3 \times 10^{-4}$
2006is	WISEA J051734.55-234659.7	0.031 380	1	0.031 320	0.0314	$-2.0 \times 10^{-5}$
2006kf	UGC 02829	0.021 533	25	0.021 540	0.020 037	$1.5 \times 10^{-3}$
2006lu	WISEA J091517.24-253600.6	0.053 303	26	0.053 270	0.0534	$-9.7 \times 10^{-5}$
2006oa	WISEA J212342.91-005034.7	0.062 510	2	0.062 505	0.062 573	$-3.3 \times 10^{-5}$
2006on	WISEA J215558.50-010412.9	0.071 820	1	0.071 820	0.071 915	$-9.5 \times 10^{-5}$
2006py	WISEA J224142.06-000812.7	0.057 855	2	0.057 930	0.057 866	$1.0 \times 10^{-4}$
2007af	NGC 5584	0.005 482	29	0.005 500	0.005 524	$-4.2 \times 10^{-5}$
2007al	WISEA J095918.72-192823.2	0.012 218	19	0.012 220	0.012 175	$4.3 \times 10^{-5}$
2007as	ESO 018- G 018	0.017 098	43	0.017 140	0.017 572	$-4.7 \times 10^{-4}$
2007bd	UGC 04455	0.031 035	25	0.031 100	0.030 44	$6.0 \times 10^{-4}$
2007ca	MCG -02-34-061	0.014 104	32	0.014 100	0.014 066	$3.8 \times 10^{-5}$
2007cb	ESO 510- G 031	0.036 520	1	0.036 570	0.036 592	$-7.2 \times 10^{-5}$
2007cc	ESO 578- G 026	0.029 051	14	0.029 040	0.029 125	$-7.4 \times 10^{-5}$

## Redshift results. (continued)

SN	Host	$z_{\text{hel}}^{\text{WiFeS}}$	$N_z$	$z_{\text{hel,centre}}^{\text{WiFeS}}$	$z_{\text{hel}}^{\text{Pantheon+}}$	$z_{\text{hel}}^{\text{WiFeS}} - z_{\text{hel}}^{\text{Pantheon+}}$
2007cq	WISEA J221440.71+050442.3	0.025 927	26	0.025 840	0.026 04	$-1.1 \times 10^{-4}$
2007fb	UGC 12859	0.017 990	23	0.017 920	0.018 026	$-3.6 \times 10^{-5}$
2007ht	2MASX J00343398-0112577	0.072 853	3	0.073 040	0.072 753	$1.0 \times 10^{-4}$
2007jh	CGCG 391-014	0.040 891	16	0.040 850	0.040 744	$1.5 \times 10^{-4}$
2007ks	SDSS J204933.00-004543.0	0.096 845	2	0.096 855	0.098	$-1.1 \times 10^{-3}$
2007le	NGC 7721	0.006 756	49	0.006 750	0.006 721	$3.5 \times 10^{-5}$
2007nq	UGC 00595	0.045 223	32	0.045 150	0.045 21	$3.1 \times 10^{-5}$
2007om	WISEA J235420.72-005501.0	0.105 160	1	0.105 330	0.104 84	$3.2 \times 10^{-4}$
2007on	NGC 1404	0.006 451	76	0.006 460	0.006 248	$2.0 \times 10^{-4}$
2007pu	SDSS J224558.32-003855.9	0.091 350	1	0.091 360	0.0914	$-5.0 \times 10^{-5}$
2007ra	WISEA J233424.11-005324.7	0.089 158	6	0.089 290	0.089 163	$-4.7 \times 10^{-6}$
2007sr	NGC 4038	0.005 550	96	0.005 640	0.005 417	$1.3 \times 10^{-4}$
2007st	NGC 0692	0.021 252	31	0.021 250	0.021 181	$7.1 \times 10^{-5}$
2008051	GALEXASC J151958.89+045417.3	0.037 960	1	0.038 010	0.037 77	$1.9 \times 10^{-4}$
2008ar	IC 3284	0.026 252	14	0.026 230	0.026 173	$7.9 \times 10^{-5}$
2008bc	KK 1524	0.014 828	40	0.014 825	0.015 087	$-2.7 \times 10^{-4}$
2008bi	NGC 2618	0.013 532	33	0.013 630	0.013 456	$7.6 \times 10^{-5}$
2008bq	ESO 308- G 025	0.034 448	22	0.034 440	0.034 007	$4.4 \times 10^{-4}$
2008cc	ESO 107- G 004	0.010 475	59	0.010 465	0.010 304	$2.0 \times 10^{-4}$
2008cf	LEDA 766647	0.047 290	1	0.047 250	0.046 03	$1.3 \times 10^{-3}$
2008ff	ESO 284- G 032	0.019 165	2	0.019 170	0.019 249	$-7.9 \times 10^{-5}$
2008fl	NGC 6805	0.020 231	41	0.020 210	0.019 88	$3.8 \times 10^{-4}$
2008fr	LEDA 5069093	0.039 500	1	0.039 480	0.039	$5.0 \times 10^{-4}$
2008fu	ESO 480-IG 021	0.052 121	29	0.052 280	0.052 016	$1.0 \times 10^{-4}$
2008fw	NGC 3261	0.008 522	79	0.008 600	0.008 379	$1.4 \times 10^{-4}$
2008gg	NGC 0539	0.032 091	18	0.032 070	0.032 025	$6.6 \times 10^{-5}$
2008gl	UGC 00881	0.034 226	15	0.034 220	0.0342	$2.6 \times 10^{-5}$
2008go	WISEA J221043.94-204725.9	0.062 215	11	0.062 125	0.062 273	$-1.7 \times 10^{-4}$
2008gp	MCG +00-09-074	0.033 144	17	0.033 170	0.0335	$-3.6 \times 10^{-4}$
2008hj	MCG -02-01-014	0.037 609	41	0.037 680	0.037 613	$-3.7 \times 10^{-6}$
2008hu	ESO 561- G 018	0.049 940	11	0.050 040	0.049 698	$2.4 \times 10^{-4}$
2008hv	NGC 2765	0.012 743	107	0.012 755	0.012 549	$1.8 \times 10^{-4}$
2008ia	ESO 125- G 006	0.022 054	85	0.022 020	0.021 942	$1.0 \times 10^{-4}$
2008Q	NGC 0524	0.008 129	66	0.008 150	0.008 016	$1.1 \times 10^{-4}$
2008R	NGC 1200	0.013 494	42	0.013 490	0.013 296	$2.0 \times 10^{-4}$
2009aa	ESO 570- G 020	0.027 383	25	0.027 380	0.027 052	$3.3 \times 10^{-4}$
2009ab	UGC 02998	0.011 102	25	0.011 120	0.011 178	$-7.6 \times 10^{-5}$
2009ad	UGC 03236	0.028 356	21	0.028 400	0.0284	$-4.4 \times 10^{-5}$
2009ag	ESO 492- G 002	0.008 731	67	0.008 740	0.008 686	$4.5 \times 10^{-5}$
2009al	NGC 3388	0.022 063	17	0.022 090	0.022 069	$-6.1 \times 10^{-6}$
2009ds	NGC 3905	0.019 188	19	0.019 060	0.019 09	$9.8 \times 10^{-5}$
2009D	ESO 549- G 031	0.025 100	42	0.025 250	0.025 097	$2.5 \times 10^{-6}$
2009ig	NGC 1015	0.008 825	33	0.008 820	0.008 77	$5.5 \times 10^{-5}$
2009kk	2MFGC 03182	0.012 505	17	0.012 620	0.012 859	$-3.5 \times 10^{-4}$
2009le	ESO 478- G 006	0.017 855	55	0.017 870	0.018 149	$-2.9 \times 10^{-4}$
2009Y	NGC 5728	0.009 486	87	0.009 635	0.009 743	$-1.2 \times 10^{-4}$
2010A	UGC 02019	0.020 815	54	0.020 860	0.020 755	$6.0 \times 10^{-5}$
2010H	IC 0494	0.015 257	31	0.015 390	0.015 197	$6.0 \times 10^{-5}$
2013go	...	0.073 200	1	0.073 180	0.074	$-8.0 \times 10^{-4}$
420100	WISEA J221225.27+005105.3	0.097 830	1	0.097 690	0.097 621	$2.1 \times 10^{-4}$
530086	2MASX J22112814-0001456	0.051 690	1	0.051 950	0.052 003	$-3.1 \times 10^{-4}$
ASASSN-15bc	LEDA 170061	0.036 928	18	0.036 850	0.036 715	$2.1 \times 10^{-4}$
ASASSN-15hg	CGCG 063-098	0.030 056	19	0.029 980	0.029 917	$1.4 \times 10^{-4}$
ASASSN-15il	2MASX J15570808-1240252	0.023 388	19	0.023 350	0.023 316	$7.2 \times 10^{-5}$
ASASSN-15lg	CGCG 044-042	0.020 127	32	0.020 180	0.020 151	$-2.3 \times 10^{-5}$
ASASSN-15nr	CGCG 082-031	0.023 168	25	0.023 150	0.023 206	$-3.8 \times 10^{-5}$
ASASSN-15od	MCG -01-07-004	0.017 637	55	0.017 580	0.017 603	$3.4 \times 10^{-5}$
ASASSN-15pr	2MASX J23063962-1234238	0.033 301	17	0.033 300	0.033 093	$2.1 \times 10^{-4}$
ASASSN-15ss	MCG -02-16-004	0.035 624	27	0.035 700	0.035 558	$6.6 \times 10^{-5}$
ASASSN-15uw	2MASX J02353437-0603496	0.030 388	12	0.030 320	0.030 811	$-4.2 \times 10^{-4}$
ASASSN-16aj	NGC 1562	0.030 620	22	0.030 630	0.030 745	$-1.2 \times 10^{-4}$
ASASSN-16ay	UGC 03738	0.028 306	24	0.028 290	0.028 343	$-3.7 \times 10^{-5}$
ASASSN-16bc	2MASX J12052488-2123572	0.032 003	19	0.031 970	0.031 939	$6.4 \times 10^{-5}$
ASASSN-16bq	IC 0986	0.024 988	25	0.024 990	0.024 935	$5.3 \times 10^{-5}$
ASASSN-16br	2MASX J15453055-1309057	0.028 661	26	0.028 700	0.028 52	$1.4 \times 10^{-4}$
ASASSN-16ct	SDSS J151354.30+044525.7	0.041 910	1	0.041 910	0.041 91	0.0
ASASSN-16dn	GALEXASC J104848.62-201544.1	0.012 920	1	0.012 920	0.012 85	$7.0 \times 10^{-5}$

## Redshift results. (continued)

SN	Host	$z_{\text{hel}}^{\text{WiFeS}}$	$N_z$	$z_{\text{hel,centre}}^{\text{WiFeS}}$	$z_{\text{hel}}^{\text{Pantheon+}}$	$z_{\text{hel}}^{\text{WiFeS}} - z_{\text{hel}}^{\text{Pantheon+}}$
ASASSN-16dw	2MASX J13300119-2758297	0.034 638	14	0.034 610	0.034 657	$-1.9 \times 10^{-5}$
ASASSN-16fo	2MASX J13323577-0516218	0.029 234	9	0.029 250	0.0289	$3.3 \times 10^{-4}$
ASASSN-16hz	2MASX J23154564-0120135	0.025 443	17	0.025 410	0.025 308	$1.3 \times 10^{-4}$
ASASSN-16ip	ESO 479- G 007	0.017 167	19	0.017 180	0.017 008	$1.6 \times 10^{-4}$
ASASSN-16jf	UGCA 430	0.011 440	12	0.011 390	0.011 441	$-1.0 \times 10^{-6}$
ASASSN-16lg	ARK 530	0.021 367	41	0.021 380	0.021 171	$2.0 \times 10^{-4}$
ASASSN-16oz	GALEXASC J090013.19-133803.5	0.030 150	1	0.030 110	0.031	$-8.5 \times 10^{-4}$
ASASSN-17aj	MCG -02-30-003	0.021 444	20	0.021 420	0.021 275	$1.7 \times 10^{-4}$
ASASSN-17co	UGC 11128	0.018 357	35	0.018 290	0.018 259	$9.8 \times 10^{-5}$
AT2016aj	2MASX J04422451-2143312	0.067 430	1	0.067 460	0.067 406	$2.4 \times 10^{-5}$
AT2016htm	2MASX J02320134-2639576	0.043 226	12	0.043 360	0.043 313	$-8.7 \times 10^{-5}$
AT2016htn	2MASX J02112819-1630409	0.053 106	17	0.053 110	0.053 117	$-1.1 \times 10^{-5}$
AT2017cfc	UGC 08783	0.023 840	1	0.023 820	0.024 027	$-1.9 \times 10^{-4}$
AT2017lm	2MASX J03013238-1501028	0.030 449	21	0.030 440	0.030 636	$-1.9 \times 10^{-4}$
AT2017ns	2MASX J02491020+1436036	0.029 373	11	0.029 370	0.028 766	$6.1 \times 10^{-4}$
AT2017yk	2MASX J09443215-1218233	0.046 670	14	0.046 760	0.046 439	$2.3 \times 10^{-4}$
AT2017zd	2MASX J13324217-2148034	0.029 486	14	0.029 650	0.029 47	$1.6 \times 10^{-5}$
ATLAS16dpb	CGCG 415-040	0.022 781	22	0.022 790	0.023 083	$-3.0 \times 10^{-4}$
ATLAS16dqf	WISEA J210907.40-180607.8	0.021 049	11	0.021 095	0.021 17	$-1.5 \times 10^{-4}$
ATLAS17ajn	ESO 440- G 001	0.028 725	13	0.028 820	0.028 706	$1.9 \times 10^{-5}$
ATLAS17axb	GALEXASC J134322.97-195637.5	0.031 580	1	0.031 630	0.031 652	$-7.2 \times 10^{-5}$
Gaia16agf	...	0.025 285	13	0.025 320	0.025 066	$2.2 \times 10^{-4}$
MASTERJ0134	GALEXASC J013415.00-174836.1	0.044 895	10	0.044 820	0.044 846	$4.9 \times 10^{-5}$
MASTEROTJ08	2MASX J08325728-0351295	0.030 521	18	0.030 570	0.030 584	$-6.3 \times 10^{-5}$
080064	GALEXASC J032942.01-275237.5	0.066 290	1	0.066 050	0.066 129	$1.6 \times 10^{-4}$
100405	...	0.103 453	11	0.103 480	0.1034	$5.3 \times 10^{-5}$
PS15aai	CGCG 071-025	0.046 510	23	0.046 500	0.046 549	$-3.9 \times 10^{-5}$
PS15bif	...	0.079 633	3	0.079 673	0.079 37	$2.3 \times 10^{-4}$
PS15bjg	2MASX J22551005-0024333	0.068 987	8	0.069 020	0.068 888	$9.9 \times 10^{-5}$
PS15brr	GALEXASC J235326.18-153921.5	0.052 845	4	0.052 950	0.051 804	$1.0 \times 10^{-3}$
PS15bsq	MCG -02-60-012	0.034 330	63	0.034 420	0.034 304	$-1.7 \times 10^{-5}$
PS15cku	2MASX J01242239+0335168	0.023 446	15	0.023 460	0.023 273	$1.7 \times 10^{-4}$
PS15cms	2MASX J09583540+0044336	0.064 884	18	0.064 860	0.064 79	$9.4 \times 10^{-5}$
PS15coh	GALEXASC J021558.44+121415.2	0.019 027	4	0.019 040	0.018 837	$1.9 \times 10^{-4}$
PS15cwx	2MFGC 04279	0.030 310	1	0.030 280	0.030 065	$2.4 \times 10^{-4}$
PS15cze	2MASX J03472342+0052316	0.039 421	9	0.039 420	0.039 371	$5.0 \times 10^{-5}$
PS16axi	2MASX J10480747+0010017	0.039 333	15	0.039 440	0.039 299	$3.4 \times 10^{-5}$
PS16ayd	2MASX J14271887-0140428	0.054 097	7	0.053 910	0.053 997	$1.0 \times 10^{-4}$
PS16bby	2MASX J14201699-2211186	0.053 550	24	0.053 570	0.053 427	$1.2 \times 10^{-4}$
PS16bnz	UGC 05586 NED02	0.062 893	31	0.062 860	0.0627	$1.6 \times 10^{-4}$
PS16cqa	2MFGC 12594	0.043 944	30	0.044 060	0.043 857	$7.8 \times 10^{-5}$
PS16em	LCRS B105301.1-030602	0.069 997	8	0.070 100	0.069 815	$1.8 \times 10^{-4}$
PS16evk	2MASX J22332338-0121266	0.054 530	1	0.054 550	0.054 468	$6.2 \times 10^{-5}$
PS16fa	CGCG 036-091	0.046 043	40	0.046 170	0.046 11	$-6.7 \times 10^{-5}$
PS16fbb	GALEXASC J000703.01-204149.5	0.052 183	12	0.052 240	0.0525	$-3.2 \times 10^{-4}$
PS17akj	LCRS B134713.8-024957	0.046 688	9	0.046 770	0.046 808	$-1.2 \times 10^{-4}$
PS17bii	2MASX J11253836+0720042	0.073 406	10	0.073 500	0.073 391	$1.5 \times 10^{-5}$
PSNJ2043531	NGC 6956	0.015 513	43	0.015 540	0.015 497	$1.6 \times 10^{-5}$
360156	WISEA J100313.52+015343.0	0.045 598	43	0.045 560	0.045 507	$9.1 \times 10^{-5}$
PTSS-16efw	2MASX J17353788+0848387	0.036 146	19	0.036 230	0.035 573	$5.7 \times 10^{-4}$
SN2016gmb	GALEXASC J003445.02-060936.8	0.058 125	4	0.058 160	0.058 269	$-1.4 \times 10^{-4}$
SN2016hpx	2MASXi J0603164-265353	0.031 831	16	0.031 770	0.033 375	$-1.5 \times 10^{-3}$
SN2017civ	LCRS B100813.8-033156	0.059 512	4	0.059 580	0.059 528	$-1.6 \times 10^{-5}$
SN2017hn	UGC 08204	0.023 897	23	0.023 810	0.023 85	$4.7 \times 10^{-5}$

<sup>a</sup> SN 2005kt was in Pantheon, but not Pantheon+ as the Type Ia classification is not secure (Sako et al., 2018; Carr et al., 2022). Thus, the reference redshift is actually from the NASA/IPAC Extragalactic Database.