

# Investigating commercially-primed contemporary artist canvases: supplementary data

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Commercially-primed artist canvases are common supports for contemporary painters. Such canvases are convenient and often affordable; however, there is limited product information available for both artists and conservators to inform purchase choice and likely ageing characteristics. To investigate the range of canvases available, 53 commercially-primed artist canvases were purchased from Australian and Singaporean suppliers in 2017-18 and analysed using various scientific methods in a collaborative project by the Queensland Art Gallery (Australia) and the Heritage Conservation Centre (Singapore).

The data presented here is a more detailed compilation of information used as the basis for the paper by Carter et al (submitted). It furthermore includes additional microscopy and fluorescence characteristics not able to be detailed in the publication.

Canvas samples included in the project reflect products that were sourced in Australia and Singapore in 2017-18. No attempt has been made to ascertain consistency or otherwise with past or current production or supply. Experimental conditions used to obtain supplementary data are detailed below.

## Discussion of results

Most canvases continue to be produced using natural fibres such as linen and cotton, with relatively few polyester canvases available. However, when it comes to commercial priming layers, the traditional animal glue and oil-based ground layers for oil painting have been substantially replaced with synthetic polymer 'universal priming' layers intended for use with both oil and water-based paints. Some traditional oil primed canvases continue to be produced (on linen) but interestingly those included in this study were often found to also contain synthetic polymer based underlayers.

Priming layers were characterised as oil, acrylic, polyvinyl acetate (PVAc) or acrylic/PVAc copolymers with and without styrene. Aside from the oil primed samples,

34 different copolymer topcoat combinations were found among the sample group with no two canvas samples showing identical formulation except some of the same brand. Styrenated acrylic copolymers were most common - in combinations of seven different acrylic monomers. Acrylic/PVAc copolymers were also common. Chalk and titanium white dominate as filler and pigment in universal priming.

It is not a surprise that synthetic polymer binders now dominate the commercially prepared canvas market, but what was less expected was the wide range of synthetic polymers used. This is significant because the constituents influence the final properties of the priming, including hardness, flexibility, temperature sensitivity and colour stability. The wide variety of synthetic polymer binders encountered in this study suggests the artist canvas industry lacks specific standards and leaves artists vulnerable to using poorly defined products. Consistency is not guaranteed even within brands nor between batches. Within the small number of oil-primed canvases analysed, 'zinc soap' formation was evident in some canvases - potentially posing a risk to subsequent oil-paint adhesion. For conservators there are emerging signs that the new generation of artist canvases do not always behave predictably when encountered in artworks. There is a clear need to further understand trends within the production and use of commercial priming materials and to investigate potential long-term implications for artists and collections.

SAMPLE ID	CATEGORY	BRAND	SUPPLIED INFORMATION (canvas sold from the roll unless otherwise indicated)	SUPPLIER	COUNTRY OF ORIGIN INFORMATION	FIBRE (FTIR)	WEAVE PATTERN	THREAD COUNT (1cm <sup>2</sup> )	CANVAS IMAGE REVERSE (visible light) <i>click to enlarge</i>	CANVAS IMAGE REVERSE (ultraviolet fluorescence) <i>click to enlarge</i>	BINDER (Py/GCMS) (PVAc) = less than 300,000 counts	BINDER (FTIR)	PIGMENTS (FTIR)	PIGMENTS (XRF) major = >2000 cts minor = 1-2000 cts (trace) = <1000 cts	CROSS SECTION IMAGE (visible light) <i>click to enlarge</i>	CROSS SECTION IMAGE (ultraviolet fluorescence) <i>click to enlarge</i>
QAG49	Cotton canvas, synthetic primer	Art Spectrum	Cotton 12oz, primed in Art Spectrum artist acrylic gesso. Primer ingredients list titanium dioxide, calcite & mica in acrylic polymer latex, 'Non-yellowing'	Oxlades Art Supplies (Australia)	Cotton sourced from India, primed in Melbourne, Australia	cotton	plain weave	14 x 18	n/a	n/a	acrylic (BA, MMA)	acrylic	chalk, TiO <sub>2</sub> , kaolinite	Ti Ca K Si Fe (S Al)		no observed fluorescence
QAG47	Cotton canvas, synthetic primer	Art Spectrum	Cotton 10oz, white acrylic double primed	Oxlades Art Supplies (Australia)	Cotton sourced from India pre-primed	cotton	half basket	11 x 29	n/a	n/a	PVAc	PVAc	chalk, TiO <sub>2</sub>	Ca Ti K (S Al Si)		no observed fluorescence
QAG48	Cotton canvas, synthetic primer	Art Spectrum	Cotton 14oz, white acrylic primer, triple primed	Oxlades Art Supplies (Australia)	Cotton sourced from India pre-primed	cotton	plain weave	10 x 16	n/a	n/a	PVAc	PVAc	chalk, TiO <sub>2</sub>	Ca Ti K (S Al Si)		no observed fluorescence
SIN02	Cotton canvas, synthetic primer	Clairefontaine	Cotton, sold as canvas board	Overjoyed (Singapore)	n/a	cotton	plain weave	12 x 15			acrylic (EA, MMA) + diethylene glycol dibenzoate plasticiser	acrylic (possible PVAc board adhesive)	TiO <sub>2</sub> , kaolinite	Ti Si Al (Ca S Fe)		
SIN21	Cotton canvas, synthetic primer	Colorpro	Cotton 380gsm, universal acid free double primed (suitable for acrylic, oil and water soluble oil), sold pre-stretched	Straits Art Co. (Singapore)	China	cotton	half basket	11 x 32			acrylic (BA) / PVAc + heneicosane, tetracontane, dotriacontane	acrylic/PVAc	chalk, TiO <sub>2</sub>	Ca Ti S K (Zn Al Si Fe Sr)		

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SIN09	Cotton canvas, synthetic primer	Francheville	Cotton 380gsm, acid free acrylic gesso triple primed, sold pre-stretched	Spotlight (Singapore)	China	cotton	half basket	10 x 30	n/a	n/a	acrylic (BA )/ styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti K (Zn S Al Si)		no observed fluorescence
QAG10	Cotton canvas, synthetic primer	Frederix	Cotton 10oz, white acid free acrylic titanium priming	Deans Art (Australia)	USA company	cotton	half basket	11 x 29			PVAc	PVAc	chalk, TiO <sub>2</sub>	Ca Ti (S K Al Si)		
SIN10	Cotton canvas, synthetic primer	Fredrix	Cotton, standard acrylic primer (acrylic-titanium primed acid free), sold as canvas stretched on cork board	ArtFriend (Singapore)	Mexico	cotton	half basket	10x32	n/a	n/a	acrylic (EA, MMA) + methyl dehydroabietate	acrylic	chalk, TiO <sub>2</sub>	Ca Ti K (S Al Si Fe Sr)		no observed fluorescence
QAG13	Cotton canvas, synthetic primer	Jasart	Cotton, white premium acrylic gesso, triple primed, sold pre-stretched	Eckersleys (Australia)	n/a	cotton	half basket	10 x 26			acrylic (BA, EHA) / styrene	acrylic/ styrene	chalk	Ca Ti S (Al Si)		
QAG11	Cotton canvas, synthetic primer	Mont Marte	Cotton 380gsm, white priming.	Art Shed Online (Australia)	Australian company, with production in China	cotton	full basket	18 x 26	n/a	n/a	acrylic (BA, EA, MA, MMA) / (PVAc)	acrylic	chalk, TiO <sub>2</sub>	Ca Ti (S K Al Si)		no observed fluorescence
QAG15	Cotton canvas, synthetic primer	National Art Materials	Cotton 12oz, white 'artist quality' triple primed, sold pre-stretched	Deans Art (Australia)	Australian wholesaler and producer, with production in China	cotton	half basket	11 x 34		no observed fluorescence	acrylic (BA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti Si K (S Al)		no observed fluorescence
QAG12	Cotton canvas, synthetic primer	National Art Materials	Cotton, white acrylic primer acid free, sold pre-stretched	Deans Art (Australia)	Australian wholesaler and producer, with production in China	cotton	half basket	9 x 29			acrylic (MA, EA) / styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti (S K? Al Si)		
SIN01	Cotton canvas, synthetic primer	no brand name	Cotton	Straits Art Co. (Singapore)	China	cotton	half basket	15 x 17	n/a	n/a	acrylic (BA, EA, MA, MMA) / PVAc	acrylic/ PVAc	chalk	Ca Ti (S K Fe)		no observed fluorescence
SIN03	Cotton canvas, synthetic primer	OVJ	Cotton 380gsm, acid free clear gesso, sold pre-stretched	Overjoyed (Singapore)	n/a	cotton	half basket	10 x 26			acrylic (BA, MMA) / styrene	acrylic/ styrene	chalk	Ca Ti (S)		
SIN04	Cotton canvas, synthetic primer	OVJ	Cotton 250gsm, universal primer, sold as canvas pad	Overjoyed (Singapore)	n/a	cotton	plain weave	12 x 12			acrylic (BA) / styrene + tetracontane, squalene	acrylic/ styrene	chalk	Ca (S Al Si K Fe)		

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SIN07	Cotton canvas, synthetic primer	Pebeo	Cotton 250gsm, universal primer, sold as canvas pad	Overjoyed (Singapore)	China	cotton	plain weave	12 x 12			acrylic (BA, MA) / styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub> , BaSO <sub>4</sub>	Ca Ti Ba S Si (K Fe)		
SIN05 (Black)	Cotton canvas, synthetic primer	Pebeo	Cotton 400gsm, black universal primer, sold pre-stretched	Overjoyed (Singapore)	n/a	cotton	half basket	10 x 30	n/a	n/a	acrylic (BA, EA) / styrene / PVAc	poor spectrum	chalk	Ca Ti (Fe Si Sr)		no observed fluorescence
SIN06	Cotton canvas, synthetic primer	Pebeo	Cotton 400gsm, white universal primer, sold pre-stretched	Overjoyed (Singapore)	China	cotton	half basket	10 x 30	n/a	n/a	acrylic (BA) / styrene / (PVAc)	PVAc/ styrene	chalk, TiO <sub>2</sub>	Ca Ti (S Al Si K Fe)		no observed fluorescence
SIN19	Cotton canvas, synthetic primer	Phoenix	Cotton (bleached) 380gsm, acrylic gesso double primed	ArtFriend (Singapore)	China	cotton	half basket	10 x 30			acrylic (EA, MA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti (Zn S Al Si Fe)		
SIN13	Cotton canvas, synthetic primer	Phoenix	Cotton 300gsm, acrylic gesso (acid free) triple primed, sold as canvas pad	ArtFriend (Singapore)	n/a	cotton	plain weave	12 x 12			acrylic (BA, EA, EHA, MA, MMA) / styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti (Zn S Al Si Fe)		
SIN15	Cotton canvas, synthetic primer	Phoenix	Cotton 300gsm, acrylic primed, sold as canvas panel	ArtFriend (Singapore)	China	cotton	plain weave	13 x 13			acrylic (BA, EA, MA, MMA) / styrene / (PVAc)	acrylic/ styrene (animal glue board adhesive)	chalk, TiO <sub>2</sub> (trace kaolinite)	Ca Ti (Zn S Al Si Fe)		
SIN16	Cotton canvas, synthetic primer	Phoenix	Cotton, gesso specially formulated for water based paints, sold as canvas panel	ArtFriend (Singapore)	China	cotton	plain weave	24 x 24	n/a	n/a	acrylic (BA, EHA) / styrene / (PVAc)	acrylic/ styrene (animal glue board adhesive)	chalk, TiO <sub>2</sub> (trace kaolinite)	Ca Ti S Si (Al K Fe)		no observed fluorescence
SIN17	Cotton canvas, synthetic primer	Phoenix	Cotton 280gsm (dyed), acrylic gesso double primed	ArtFriend (Singapore)	China	cotton	plain weave	10 x 12			acrylic (BA, EA) / styrene / PVAc + pentacosane, tetracontane	acrylic/ styrene/ PVAc	chalk, TiO <sub>2</sub>	Ca Ti (Zn S Al Si Fe Sr)		
SIN18	Cotton canvas, synthetic primer	Phoenix	Cotton 380gsm, acrylic gesso double primed	ArtFriend (Singapore)	China	cotton	half basket	10 x 30			acrylic (BA, MA, MMA) / styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub> , BaSO <sub>4</sub>	Ca Ti S K (Zn Al Si Fe Sr)		
SIN14	Cotton canvas, synthetic primer	Phoenix	Cotton 380gsm, acrylic gesso (acid free) triple primed, sold pre-stretched	ArtFriend (Singapore)	n/a	cotton	half basket	10 x 30	n/a	n/a	acrylic (EA, MA, MMA) / styrene / PVAc	acrylic/ styrene/ PVAc	chalk, TiO <sub>2</sub>	Ca Ti K (Zn S Al Fe Sr)		no observed fluorescence

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SIN08	Cotton canvas, synthetic primer	Semco	Cotton 340gsm, acid free gesso triple primed, sold pre-stretched	Spotlight (Singapore)	China	cotton	half basket	10 x 30	n/a	n/a	acrylic (BA) / styrene / (PVAc)	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti K (Zn S Al Si)		no observed fluorescence
QAG05	Cotton canvas, synthetic primer	Sydney Canvas Company	Cotton 8oz, machine triple primed white archival acrylic gesso	Sydney Canvas Company (Australia)	Australian company, cotton canvas imported from India	cotton	half basket	11 x 34			acrylic (BA, MMA) / PVAc	acrylic/ PVAc	chalk, TiO <sub>2</sub>	Ca Ti K S (Al Si)		
QAG06	Cotton canvas, synthetic primer	Sydney Canvas Company	Cotton 10oz, machine double primed white archival acrylic gesso	Sydney Canvas Company (Australia)	Australian company, cotton canvas imported from India	cotton	half basket	11 x 30			acrylic (BA, MMA) / PVAc	acrylic/ PVAc	chalk, TiO <sub>2</sub>	Ti Ca K S (Al Si)		
QAG08 (Black)	Cotton canvas, synthetic primer	Sydney Canvas Company	Cotton 12oz, machine double primed white archival acrylic gesso	Sydney Canvas Company (Australia)	Australian company, cotton canvas imported from India	cotton	plain weave	17 x 13	n/a	n/a	PVAc	PVAc	chalk, TiO <sub>2</sub>	Ca Ti K S (Al Si Fe Mn)		no observed fluorescence
SIN23	Cotton canvas, synthetic primer	Talens	Cotton 300gsm, one layer of natural glue and two layers of acid-free acrylic-based gesso (universal preparation) triple hand primed	Straits Art Co. (Singapore)	Poland	cotton	plain weave	20 x 21	n/a	n/a	acrylic (BA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al Si K Fe Sr)		no observed fluorescence
QAG14	Cotton canvas, synthetic primer	Winsor and Newton	Cotton 11oz, white acid free gesso, sold pre-stretched	Eckersleys (Australia)	British company, cotton imported from India	cotton	half basket	12 x 32			acrylic (BA, MMA) / PVAc / VeoVa + cedrol	acrylic	chalk, TiO <sub>2</sub>	Ca Ti K (Mg S Al Si)		
SIN25	Linen canvas, synthetic primer	no brand name	n/a	Straits Art Co. (Singapore)	Belgium	linen	plain weave	15 x 15	n/a	n/a	acrylic (BA, MMA)	acrylic	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (Zn S Al Fe Sr)		no observed fluorescence
QAG31	Linen canvas, synthetic primer	ArtFix	Linen (extra fine) four coats of primer (Product code 64U)	Chapman + Bailey (Australia)	French company based in Provence	linen	plain weave	20 x 20	n/a	n/a	acrylic (BA, MMA) / styrene / PVAc / VeoVa	acrylic/ styrene/ PVAc	chalk, TiO <sub>2</sub> , talc	Ca Ti (S Al Si K Zn)		no observed fluorescence
QAG29	Linen canvas, synthetic primer	ArtFix	Linen (medium), white universal acrylic triple primed (product code 53U)	Chapman + Bailey (Australia)	French company based in Provence	linen	plain weave	10 x 11	n/a	n/a	acrylic (BA, MMA) / styrene / PVAc	acrylic/ styrene/ PVAc	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al K Zn)		no observed fluorescence
QAG20	Linen canvas, synthetic primer	Belle Arti	Linen 316 gsm (extra fine, white universal double primed (product code 74U)	Sydney Canvas Company (Australia)	Italian company, website notes that fabric has been milled in Varese, Italy for 30 years.	linen	plain weave	16 x 17			acrylic (BA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si K (S Al)		

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QAG21	Linen canvas, synthetic primer	Belle Arti	Linen 399 gsm (medium), white universal triple primed (Product code 33U)	Sydney Canvas Company (Australia)	Italian company, website notes that fabric has been milled in Varese, Italy for 30 years.	linen	plain weave, very open	11 x 10			acrylic (BA, EA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al)		
QAG23 (Black)	Linen canvas, synthetic primer	Belle Arti	Linen 428gsm, black universal double primed (Product code 48U)	Sydney Canvas Company (Australia)	Italian company, website notes that fabric has been milled in Varese, Italy for 30 years.	linen	plain weave	10 x 15			acrylic (BA) / styrene	acrylic/ styrene	chalk, kaolinite	Ca Fe Ba S Si (Al Mn)		
QAG24	Linen canvas, synthetic primer	Belle Arti	Linen 584gsm (course), white universal triple primed (product code 91U)	Chapman + Bailey (Australia)	Italian company	linen	full basket	16 x 16			acrylic (BA, EA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al)		
QAG26	Linen canvas, synthetic primer	Caravaggio	Linen, white acrylic double primed	Parkers Fine Art Supplies (Australia)	Website notes that linen is produced, milled and primed in Varese, Italy. Jute is imported from India in loom state.	linen	plain weave	11 x 12			acrylic (EA, EHA,EMA MMA) / styrene	acrylic	TiO <sub>2</sub> , silica	Ti Si Al Fe (S) no Ca		
QAG27 (Black)	Linen canvas, synthetic primer	Caravaggio	Linen, black acrylic triple primed	Parkers Fine Art Supplies (Australia)	Website notes that linen is produced, milled and primed in Varese, Italy. Jute is imported from India in loom state.	linen	plain weave	8 x 10	n/a	n/a	acrylic (EA, MMA) / styrene	acrylic	kaolinite	Ca Al Si Fe K (Ti S)		no observed fluorescence
QAG28	Linen canvas, synthetic primer	Claessens	Linen, white acrylic primer, two layers of synthetic adhesive applied to canvas followed by double acrylic priming (the company produces their own grounds)	Parkers Fine Art Supplies (Australia)	Belgian artist canvas specialised company, website notes that their flax is grown in the district around the River Leie, Belgium	linen	plain weave	14 x 17	n/a	n/a	acrylic (BA, MMA)	acrylic	chalk, TiO <sub>2</sub> , talc	Ca Ti Si Fe (S Al)		no observed fluorescence
SIN22	Linen canvas, synthetic primer	Colorpro	Linen 400gsm, universal acid-free triple primed (suitable for acrylic, oil and water soluble oil), sold pre-stretched	Straits Art Co. (Singapore)	Made in China under licence for Straits Art Co Pty Ltd.	linen	plain weave	11 x 12	n/a	n/a	acrylic (BA, EA, MMA) / PVAc	acrylic/ PVAc	chalk, TiO <sub>2</sub>	Ca Ti (S Al Si Fe)		no observed fluorescence
SIN24	Linen canvas, synthetic primer	Talens	Linen 360gsm, one layer of natural glue and two layers of acid-free acrylic-based gesso (universal preparation) triple hand primed, sold pre-stretched	Straits Art Co. (Singapore)	Poland	linen	plain weave	14 x 13			acrylic (BA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al Fe Sr)		
QAG33	Linen canvas oil primer	ArtFix	Linen (medium), oil primed, four coats of primer (Product code 134OP)	Chapman + Bailey (Australia)	French company based in Provence	linen	plain weave	19 x 17	n/a	n/a	Oil / acrylic (BMA, MMA) / styrene / (PVAc)	Base layer acrylic/ PVAc/ styrene. Top layer oil (zinc soaps - minor)	BaSO <sub>4</sub>	Ti Ca Zn Ba S Si (Al)		no observed fluorescence

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QAG36	Linen canvas oil primer	ArtFix	Linen (extra fine), oil primed, four coats of primer (Product code 84OP)	Chapman + Bailey (Australia)	French company based in Provence	linen	plain weave	25 x 24	n/a	n/a	Oil / acrylic (BMA, MMA) / styrene / (PVA) + dimethylphthalate, long chain fatty acids (docosanoic acids, tetracosanoic acid)	Base layer acrylic/ PVAc/ styrene. Top layer oil, zinc soaps amorphous and crystalline	BaSO <sub>4</sub> , ZnO (inferred)	Ti Ca Zn Ba S (Al Si)		no observed fluorescence
QAG38	Linen canvas oil primer	Belle Arti	Linen 508gsm, oil primed, double primed (Product code 36OP)	Sydney Canvas Company (Australia)	Italian company	linen	plain weave	9 x 15	n/a	n/a	Oil / acrylic (BA, EA) / styrene	Base layer acrylic/ styrene. Top layer oil	Base layer calcium sulphate. Top layer chalk, TiO <sub>2</sub> , kaolinite, BaSO <sub>4</sub>	Ca Ti Ba S Si (Al)		no observed fluorescence
QAG37	Linen canvas oil primer	Claessens	Linen, oil primed, two layers of synthetic adhesive on canvas followed by triple oil priming - first coat zinc white based, top coats titanium based (the company produces their own grounds)	Parkers Fine Art Supplies (Australia)	Belgian artist canvas specialised company, website notes that their flax is grown in the district around the River Leie, Belgium	linen	plain weave	18 x 14	n/a	n/a	Oil + 2-ethylhexanoic acid dryer, methyl dehydroabietate	oil, zinc soaps amorphous	TiO <sub>2</sub> , ZnO (inferred), BaSO <sub>4</sub>	Ti Zn Ba S (Ca Al)		no observed fluorescence
QAG44	Polyester canvas, synthetic primer	ArtFix	Polyester 200gsm, white acrylic primer, six coats of primer (Product code P156)	Parkers Fine Art Supplies (Australia)	French company based in Provence	PET (delustering agent visible in microscopy)	plain weave	20 x 22	n/a	n/a	acrylic (BA, MMA) / styrene / PVAc / VeoVa	acrylic/ styrene/ PVAc	chalk, TiO <sub>2</sub> , talc	Ca Ti (Zn S Al Si P)		no observed fluorescence
QAG45	Polyester canvas, synthetic primer	Belle Arti	Polyester/Cotton blend 326gsm, white acrylic double primed (Product code 69U)	Sydney Canvas Company (Australia)	Italian company	PET/cotton (delustering agent visible in microscopy)	plain weave	17 x 17			acrylic (BA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub> , talc	Ca Ti Si (S Al P)		
QAG46	Polyester canvas, synthetic primer	Caravaggio	Polyester 200gsm, white double primed (Product code 504)	Art Shed (Australia)	Italian company	PET	plain weave	14 x 16			acrylic (EA, MMA) + terephthalic acid plasticiser	acrylic	TiO <sub>2</sub> , kaolinite	Ti Al Si Fe S (Ca K)		
SIN11	Polyester canvas, synthetic primer	Fredrix	No fibre listed, acrylic primed, sold as canvas panel	ArtFriend (Singapore)	Assembled in Mexico, primed in U.S.A	PET	plain weave	11 x 12			acrylic (EA, MMA)	acrylic	chalk, TiO <sub>2</sub>	Ca Ti K (S Al Si Fe Sr)		
SIN12	Polyester canvas, synthetic primer	Fredrix	No fibre listed, acrylic primed, sold as canvas pad	ArtFriend (Singapore)	Assembled in Mexico, primed in U.S.A	PET	plain weave	12 x 12			acrylic (EA, MMA)	acrylic (possible PVAc board adhesive)	chalk, TiO <sub>2</sub>	Ca Ti K (S Al Si Fe Sr)		
SIN20	Polyester canvas, synthetic primer	Phoenix	Cotton/Polyester blend (55/45%) 350gsm, acrylic gesso double primed	ArtFriend (Singapore)	China	PET/cotton	half basket	11 x 32			acrylic (BA, EA, MA) / styrene	acrylic/ styrene	chalk, TiO <sub>2</sub>	Ca Ti S Si (Zn Al Fe Sr)		

## References

- Anne Carter, Lynn Chua, Filzah Mohd Amir, Ruby Awburn, Gillian Osmond and Joey Ng, 'Investigating commercially-primed artist canvases' in eds. Ian McClure, Cynthia Schwartz and Jim Coddington, *Conserving Canvas*, Getty, submitted.
- Anne Carter, Lynn Chua, Filzah Mohd Amir, Ruby Awburn, Gillian Osmond and Joey Ng, 'Investigating contemporary pre-primed artist canvases'. Poster presented at Conserving Canvas Symposium, Yale University, October 2019.
- Gillian Osmond, Lynn Chua, Anne Carter, Ruby Awburn and Filzah Mohd Amir, 'An FTIR survey of contemporary pre-primed artist canvases'. Poster presented at the 13th Infrared and Raman Users Group symposium, Sydney, December 2018.

## Experimental

ATR-FTIR - Thermo Scientific iN10 microscope with DTGS room-temperature detector coupled to an iZ10 diamond ATR bench accessory. 16 scans over 4000-400 cm<sup>-1</sup> range, 4cm<sup>-1</sup> resolution.

Py-GC/MS - Shimadzu GC/MS QP2020 combined with a Frontier PY3030D pyrolyser unit with autosampler AOC-20i. Pyrolysis conditions: 600°C for 0.2 min; GC conditions 40°C for 5 min, ramped to 300°C at 10°C/min, hold 5 min. Oil-containing samples were derivatised with 3 µl of 25% TMAH in methanol. MS conditions: EI mode (70 eV), scan range: 50-600 m/z.

XRF - Bruker Tracer 5i with Rh excitation anode, silicon drift PIN diode detector, no vacuum, Geo-Exploration mode calibration, spot size 8mm.

Optical microscopy - Keyence digital microscope VHX6000 coupled to a dual objective zoom lens (VH-ZST). Nightsea UV excitation source with barrier filter (excitation: 360-380nm, emission: 415nm longpass).

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