

ANALYTICAL RESULTS – OBJECT 8

PARTNER:	UNITO - CCR
TYPE OF WORK:	Mural (Object 8)
COUNTRY:	Italy
CITY:	Turin
ADDRESS:	Piazza Campidoglio - corner Via Musiné
OWNER / CUSTODIAN:	MAU - Museum of Urban Art
ARTIST:	Spider, Vito Navolio
TITLE OF THE WORK:	Guardare Oltre
YEAR OF EXECUTION:	2015
MATERIALS:	Mixed painting on bricks

SAMPLING POINTS LOCATION



TABLE OF ANALYTICAL RESULTS

	Name of the sample	Original materials	No original materials	Pigments / dyes		Organic binders		Type of support*		Other**	
				Identification methods	Results	Identification methods	Results	Identification methods	Results	Identification methods	Results
1	Cross section	x									
2	Cross section	x									
3	Cross section	x									
4	Light blue paint layer	x		ATR-FTIR	Calcite, silicates	ATR-FTIR	Styrene-Acrylic				
5	Dark blue paint layer	x		ATR-FTIR	Calcite, silicates	ATR-FTIR	Styrene-Acrylic				
6	Purple paint layer	x		ATR-FTIR	Calcite, silicates and Cinquasia Violet (PV 19)	ATR-FTIR	Styrene-Acrylic				
7	Military green paint layer	x		ATR-FTIR	PY151, calcite	ATR-FTIR Py-GC/MS	Styrene-Acrylic (main), PVA (secondary)				
8	Dark green paint layer	x		ATR-FTIR	Calcite, silicates, PY151	ATR-FTIR	Possibly styrene-Acrylic			ATR-FTIR	oxalates
9	Smerald green paint layer	x		ATR-FTIR	Calcite, quartz	ATR-FTIR	Acrylic				
10	Dark yellow paint layer	x		ATR-FTIR SEM-EDS	Calcite, silicates, Ti white	ATR-FTIR	Acrylic				

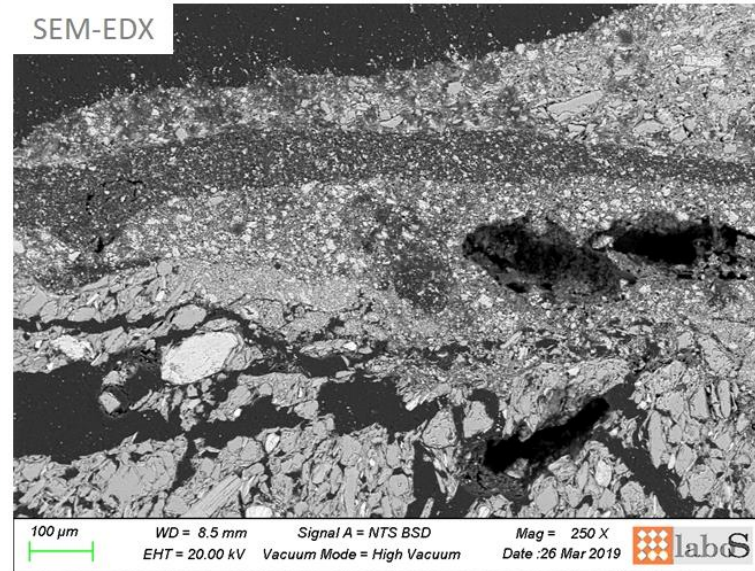
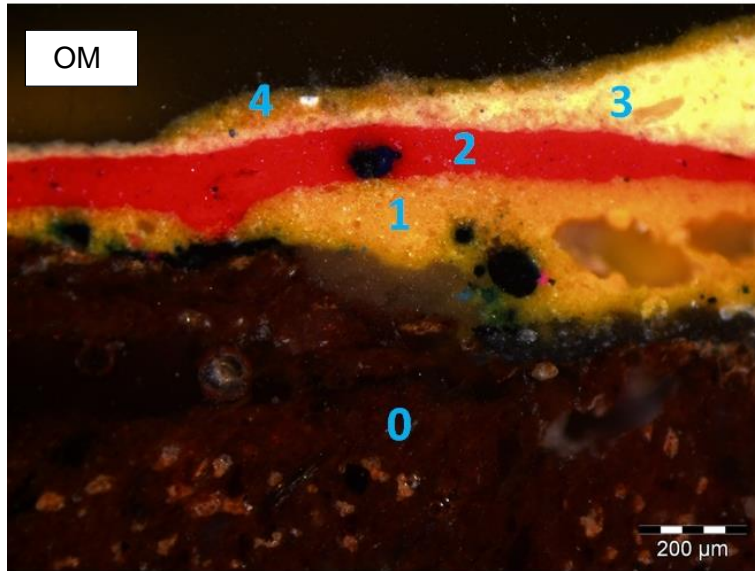
11	Cross section	x		See pictures below							
12	Light yellow layer	x		ATR-FTIR SEM-EDS	Calcite, silicates, Ti white	ATR-FTIR	Acrylic				
13	Red layer	x		ATR-FTIR SEM-EDS	Calcite, silicates, Ti white, PR 48	ATR-FTIR Py-GC/MS	Styrene- Acrylic				
14	White layer			ATR-FTIR	Calcite, silicates	ATR-FTIR Py-GC/MS	Acrylic			ATR-FTIR	oxalates
15	Black layer			ATR-FTIR	Calcite, silicates	ATR-FTIR Py-GC/MS	Styrene- Acrylic			ATR-FTIR	oxalates

* mortars, stone, metal ect.

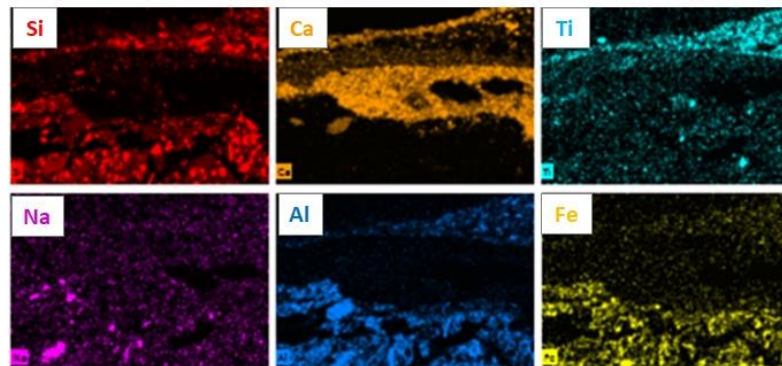
** Additional research or analyzes, for example: aging tests, colorimetry, pH...

STRATIGRAPHY OF THE MICROSAMPLES

Sample n°: OBJ8_11

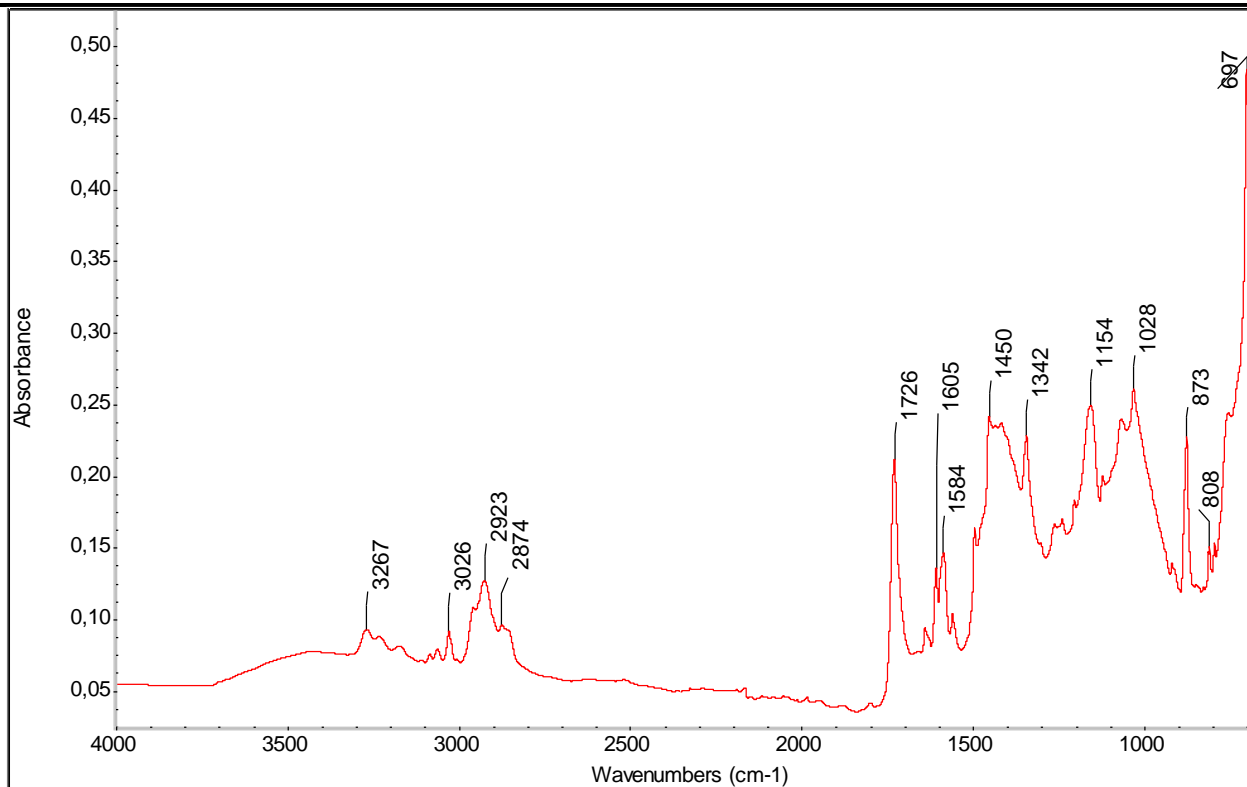


0 – support	Si, Al, Fe, (Mg), (Na), (Ti)
1 – yellow	Ca, Si, (Al), (Ti), (Mg), (Fe)
2 – red	organic? Ca, Si, Ti, (Mg), (Al)
3 – light yellow	Si, Al, Ca, Ti, K, (Mg) + quartz inclusions
4 – yellow	Ca, Si, Ti, (Mg), (Bi)



FOURIER-TRANSFORM INFRARED SPECTROSCOPY (FTIR)

Sample n°: OBJ 8-6



ASSIGNMENTS:

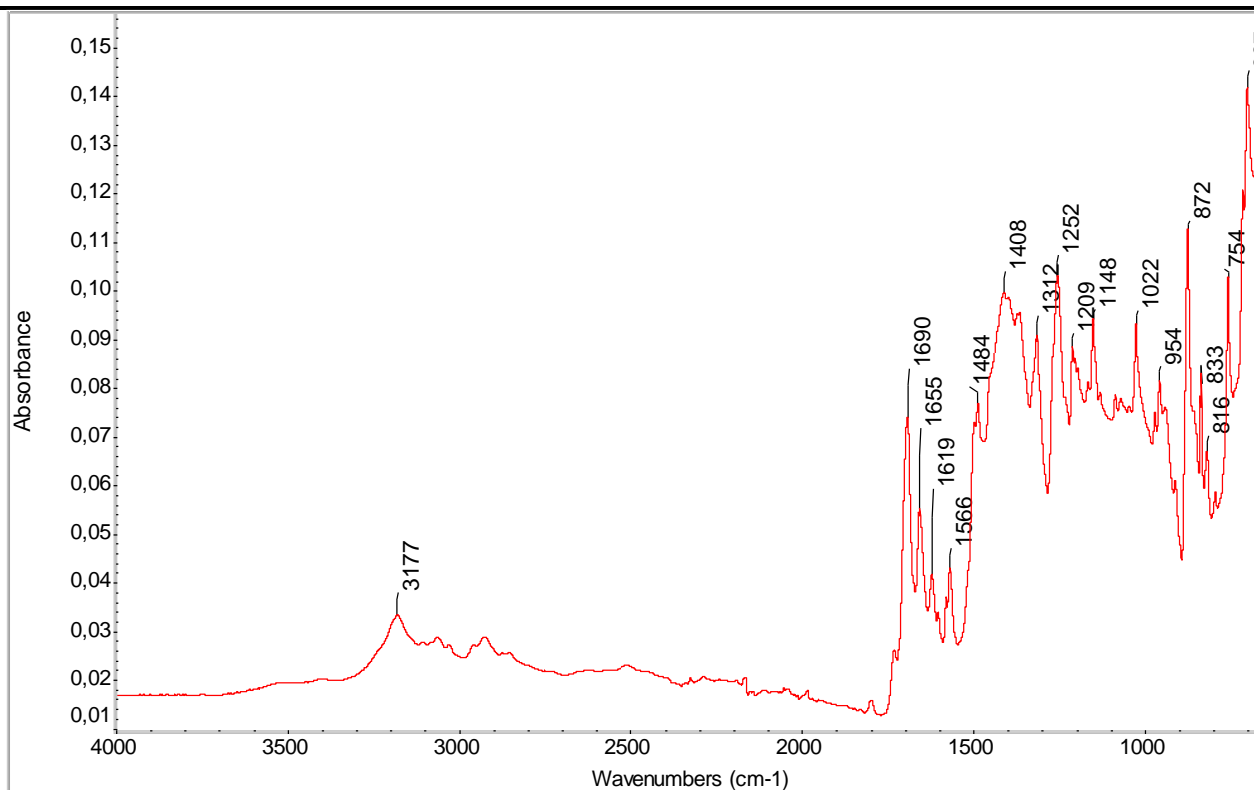
Acrylic: 2874 cm⁻¹, 1732 cm⁻¹, 1449 cm⁻¹, 1271 cm⁻¹, 1148 cm⁻¹, 1067 cm⁻¹, 844 cm⁻¹, 754 cm⁻¹

Calcite: 2511 cm⁻¹, 1796 cm⁻¹, 1415 cm⁻¹, 1877 cm⁻¹, 703 cm⁻¹

Silicates: 900-1200 cm⁻¹

Cinquasia Violet (PV 19): 3268 cm⁻¹, 3171 cm⁻¹, 1631 cm⁻¹, 1606 cm⁻¹, 1580 cm⁻¹, 1557 cm⁻¹, 1260 cm⁻¹, 1134 cm⁻¹

Sample n°: OBJ 8-7



ASSIGNMENTS:

Acrylic: 2952 cm⁻¹, 2874 cm⁻¹, 1732 cm⁻¹, 1451 cm⁻¹, 1148 cm⁻¹, 1067 cm⁻¹, 989 cm⁻¹, 842 cm⁻¹, 751 cm⁻¹

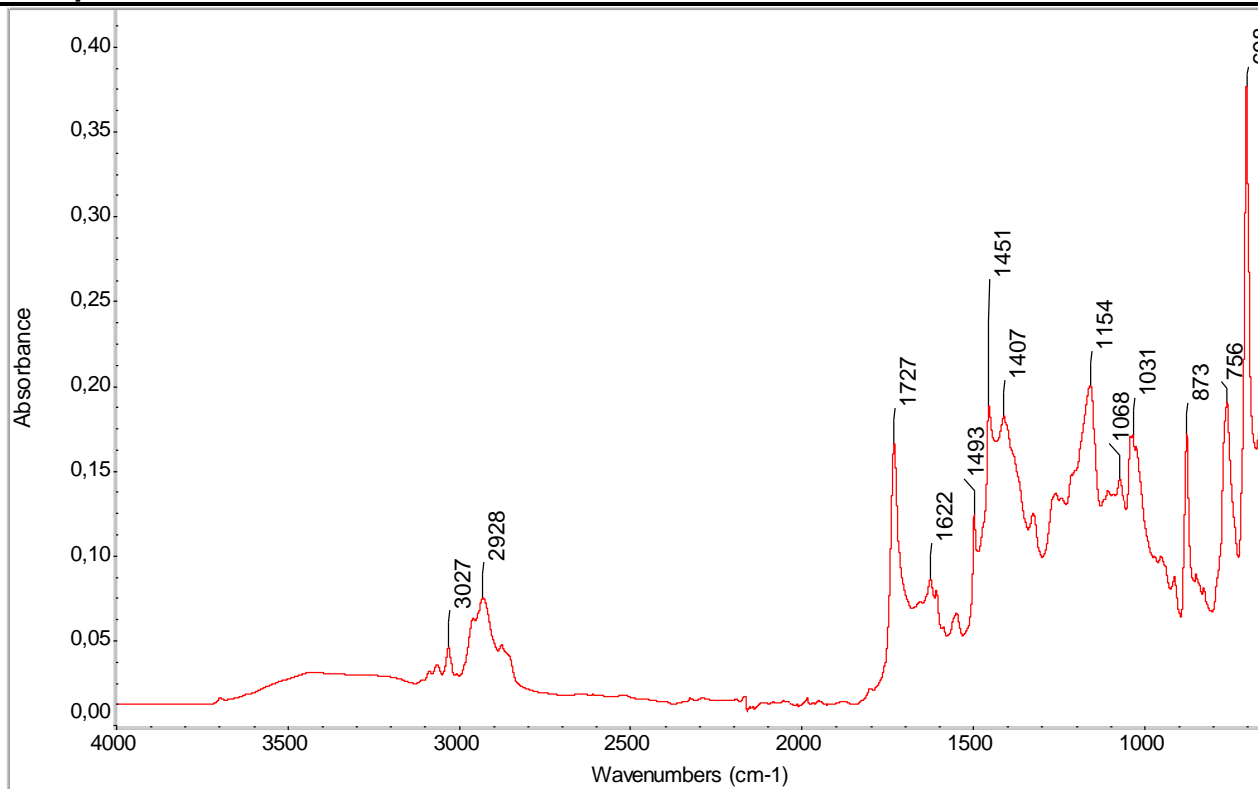
Styrene: 3082 cm⁻¹, 3060 cm⁻¹, 3026 cm⁻¹, 1493 cm⁻¹, 1452 cm⁻¹, 757 cm⁻¹, 689 cm⁻¹

PVA: 2925 cm⁻¹, 1729 cm⁻¹, 1377 cm⁻¹, 1252 cm⁻¹, 1022 cm⁻¹, 954 cm⁻¹

Calcite: 2511 cm⁻¹, 1796 cm⁻¹, 1408 cm⁻¹, 872 cm⁻¹, 712 cm⁻¹

PY151: 3179 cm⁻¹, 1690 cm⁻¹, 1655 cm⁻¹, 1619 cm⁻¹, 1566 cm⁻¹, 1499 cm⁻¹, 1484 cm⁻¹, 1312 cm⁻¹, 1252 cm⁻¹, 1209 cm⁻¹, 1148 cm⁻¹, 1022 cm⁻¹, 954 cm⁻¹, 754 cm⁻¹, 714 cm⁻¹,

Sample n°: OBJ 8-13



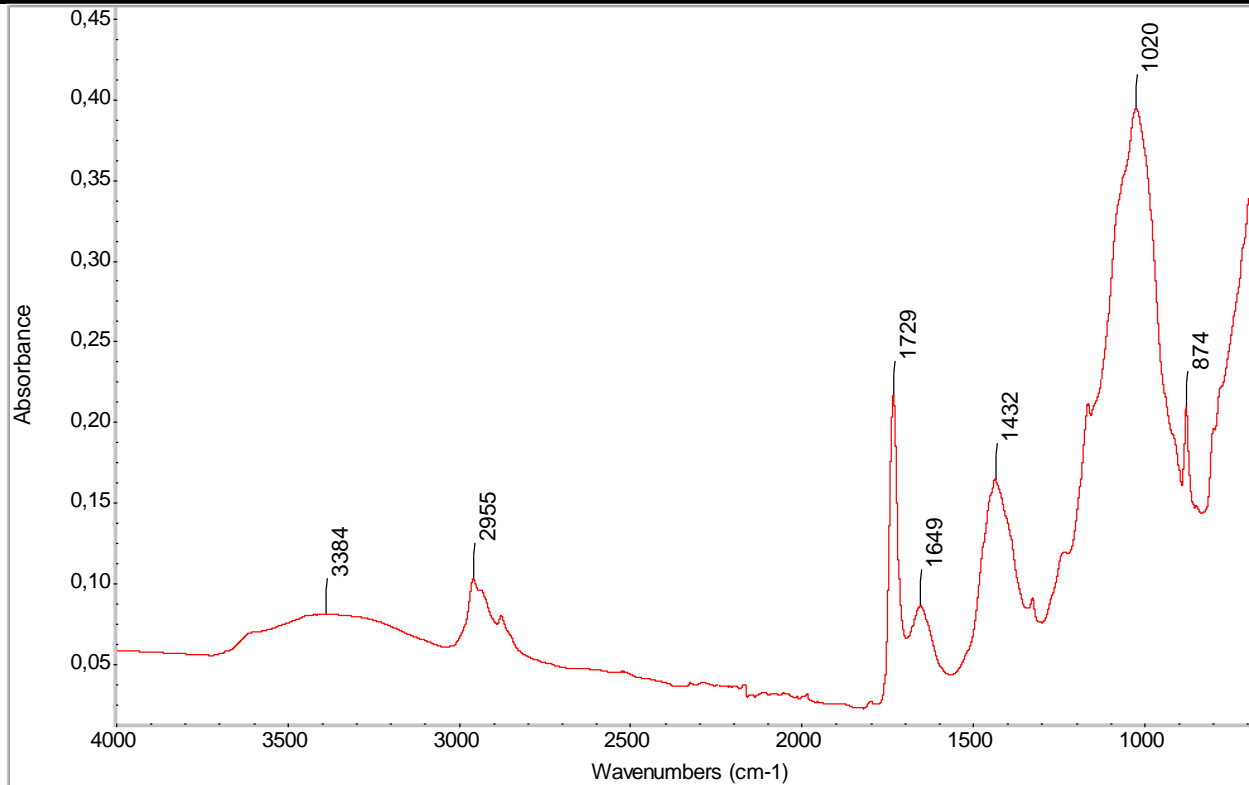
ASSIGNMENTS:

Acrylic:, 2952 cm⁻¹, 2874 cm⁻¹, 1732 cm⁻¹, 1449 cm⁻¹, 1240 cm⁻¹, 1148 cm⁻¹, 1067 cm⁻¹, 989 cm⁻¹, 842 cm⁻¹, 751 cm⁻¹

Calcite: 2511 cm⁻¹, 1796 cm⁻¹, 1407 cm⁻¹, 877 cm⁻¹

Silicates: 900-1200 cm⁻¹

Sample n°: OBJ 8-14



ASSIGNMENTS:

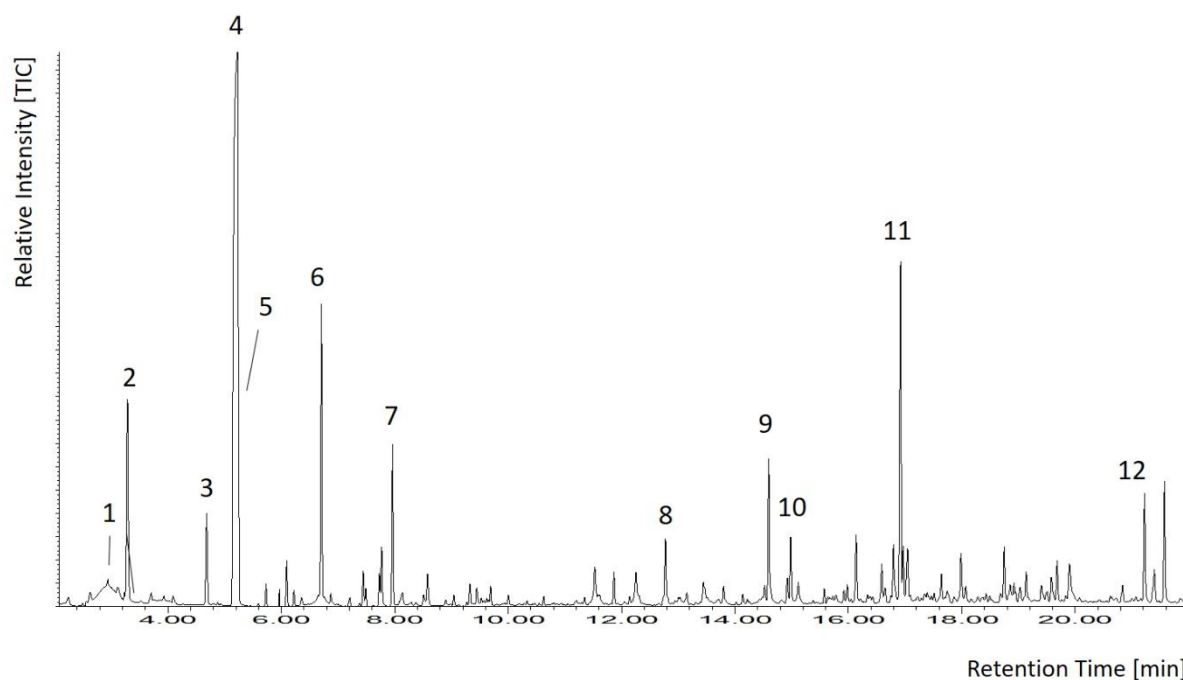
Acrylic:, 2955 cm⁻¹, 2876 cm⁻¹, 1729 cm⁻¹,
1432 cm⁻¹, , 1238 cm⁻¹, 1166 cm⁻¹

Calcite:, 1796 cm⁻¹, 1402 cm⁻¹, 874 cm⁻¹, 712
cm⁻¹

Silicates: 900-1200 cm⁻¹

PYROLYSIS-GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Sample n°: OBJ 8-13



Peak N.	Assignment	Rt (min)
1	methyl methacrylate	2.6
2	toluene	3.3
3	ethylbenzene	4.7
4	styrene	5.2
5	butyl acrylate	5.3
6	α -methyl styrene	6.7
7	(1-methylenepropyl)-benzene	8.0
8	biphenyl	12.8
9	1,1'-(1,2-ethanediyl)bis-benzene	14.6
10	1,1'-(1-methyl-1,2-ethanediyl)bis-benzene	15.0
11	ethenylbenzene, dimer	16.9
12	m-terphenyl	21.2

This document was produced within the project ***Conservation of Art in Public Spaces (CAPuS)***.

Authors:

Moira Bertasa, Tommaso Poli, Chiara Riedo, Dominique Scalarone (University of Torino)

Paola Croveri, Chiara Ricci (Fondazione Centro Conservazione e Restauro “La Venaria Reale”)



**Education, Audiovisual and
Culture Executive Agency**
Erasmus+: Higher Education-Knowledge
Alliances, Bologna Support, Jean Monnet

CAPuS project has received funding from the
European Commission, Programme Erasmus+
Knowledge Alliances 2017, Project N°
588082-EPP-A-2017-1-IT-EPPKA2-KA

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.