

<b>NUMBER OF PARTNER:</b>	P3 Cesmar7, P4 An.t.a.res srl
<b>TYPE OF WORK:</b>	Mural painting
<b>COUNTRY:</b>	Italy
<b>CITY:</b>	Reggio Emilia
<b>ADDRESS:</b>	Via Selo
<b>OWNER / CUSTODIAN:</b>	Cooperative Popular Houses of Mancasale and Coviolo
<b>ARTIST:</b>	ZOSEN (Proyecto Ritual)
<b>TITLE OF THE WORK:</b>	Economy subdues you
<b>YEAR OF EXECUTION:</b>	2010
<b>MATERIALS:</b>	housepaint acrylic and Montana spray

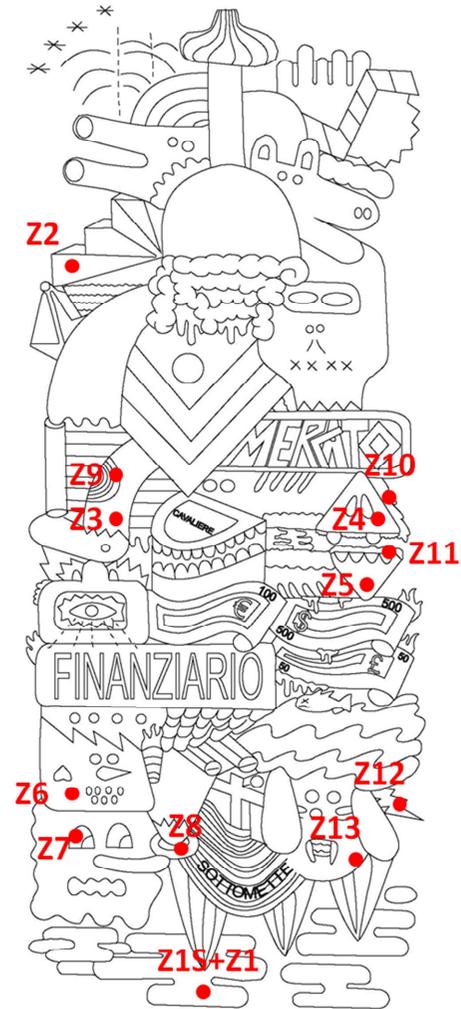
	Name of the sample	Original materials	No original materials	Pigments / dyes		Organic binders		Type of support*		Other**	
				Identification methods	Results	Identificati on methods	Results	Identification methods	Results	Identification methods	Results
1	Z1 S + Z1	X		μ- Raman on the cross-section sample and Raman in situ	Rutile is present both in the paint layer than in the primer, together with Calcite. The turquoise color is due to a blue pigment (Polycyclic pigment,	FTIR-ATR  Py-GC/MS	Alkyd resin in the paint layer and acrylic one in the ground layer.	-		Stereomicroscopy on sample fragments	Stratigrafy: a.Brown ground layer b.White prime coating c.Turquoise paint layer d.Whitish

					pthalocyanine PB15:3?) and yellow azo pigment (PY74).						layer (patina)
	Z2	X		Raman Spectroscopy in situ	Rutile, Disazopigment, pyrazolone P034?						
	Z3	X			Rutile, Monoazopigment, acetoacetic arylide PY74						
	Z4	X			Rutile. Pigments to be confirmed; they seem a mix of Hostopen Violet and Naphtol AS (PR22) or family (es. PR8, PR18) or maybe a disazopigment, pyrazolone P034?						
	Z5	X			Rutile, Disazopigment, pyrazolone P034						
	Z6	X			Rutile, P034 Diazopyrazolone						
	Z7	X			Rutile, Monoazopigment,						

					acetoacetic arylide PY74						
	Z8	X		Raman Spectroscopy in situ	Rutile, Monoazopigment, acetoacetic arylide PY74						
	Z9	X			Rutile, P034 Diazopyrazolone						
	Z10	X			Rutile, P034 Diazopyrazolone						
	Z11	X			Rutile, Monoazopigment, acetoacetic arylide PY74						
	Z12	X			Rutile, Monoazopigment, acetoacetic arylide PY74						
	Z13	X			Rutile, Monoazopigment, acetoacetic arylide PY74						

\* mortars, stone, metal ect.

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



**Sampling map**

- Z1S + Z1 turquoise > light turquoise - fading
- Z2 orange > light orange - fading
- Z3 orange > light yellow - chromatic alteration
- Z4 pink > white - chromatic alteration
- Z5 orange > light yellow - chromatic alteration
- Z6 red > purple - chromatic alteration
- Z7 orange > white – chromatic alteration
- Z8 pink > white - chromatic alteration
- Z9 red > violet – chromatic alteration
- Z10 red > violet – chromatic alteration
- Z11 orange > white - chromatic alteration
- Z12 yellow > light yellow – fading
- Z13 orange > light orange – fading

**Fig. 1** “ IL MERCATO TI SOTTOMETTE ” – sampling location

Z1S sample was collected from a turquoise area painted by spray (**fig.1-3**) that faded.

The study of the Z1S sample (**fig. 4-6**) has shown the following structure and composition:

- a)** Brown ground layer > 700  $\mu\text{m}$  thick containing Quartz grains and a styrene-acrylic polymer;
- b)** White paint layer (prime coating) filling up the roughness of the layer a., irregular thickness under of 30  $\mu\text{m}$ , composed of Rutile and Calcite; this paint layer has been addressed to Py-GC-MS.
- c)** Turquoise paint layer containing a mixture of a blue pthalocyanine pigment and yellow azo PY74 based pigment, Calcite and Rutile. Regular feature, average thickness of 30  $\mu\text{m}$ ;
- d)** Whitish layer (patina) is hypothesized, it is too thin to be observed under microscope and measured.

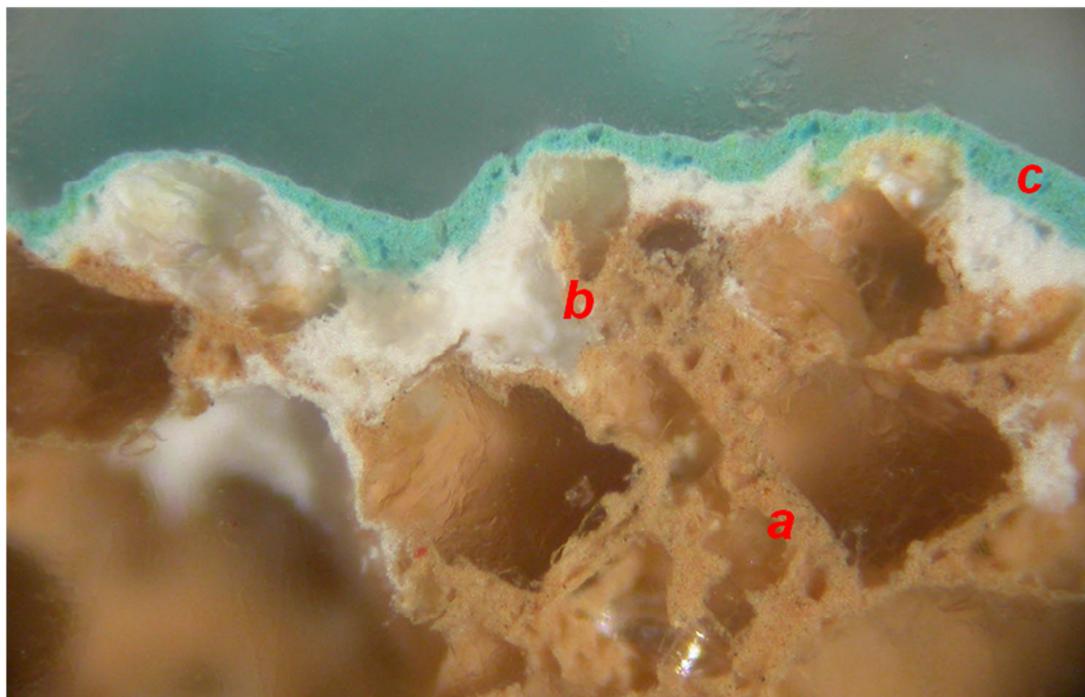
The FTIR-ATR spectra of the turquoise surface have likely shown the presence of an alkyd resin, confirmed also by Py-GC-MS.



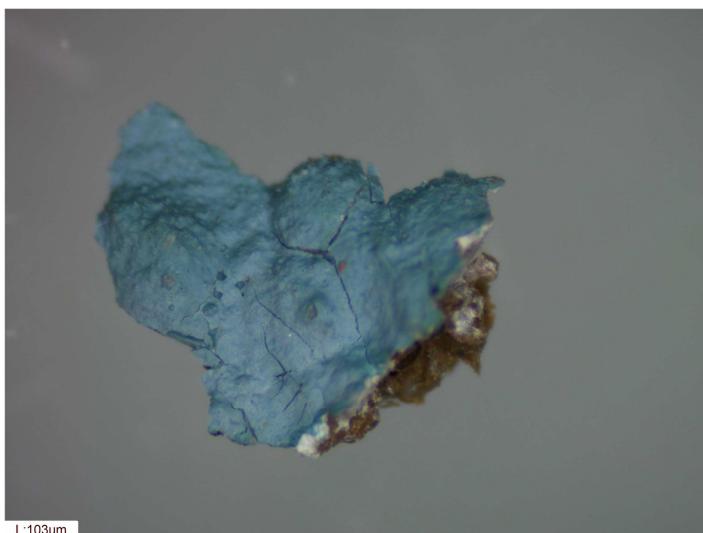
**Fig. 2** " IL MERCATO TI SOTTOMETTE " - sample Z1S - before sampling



**Fig. 3** " IL MERCATO TI SOTTOMETTE " - sample Z1S - after sampling

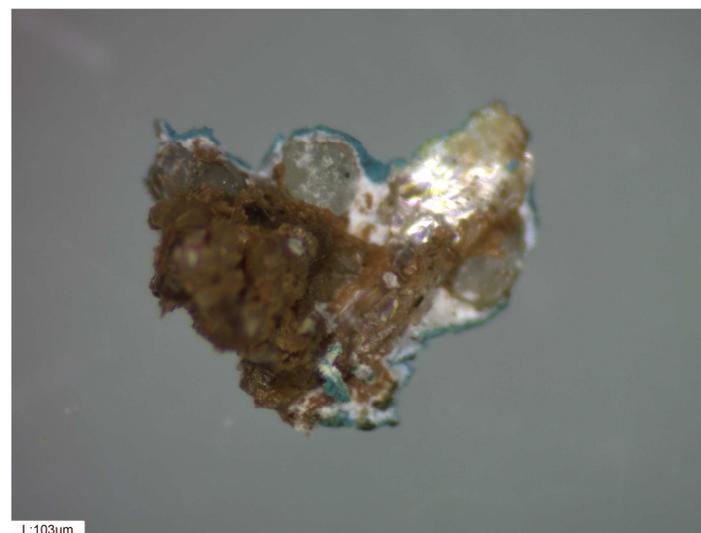


**Fig.4** “IL MERCATO TI SOTTOMETTE” – sample Z1S – cross section – reflected Visible light – magnification 200 x



L:103um

**Fig.5** " IL MERCATO TI SOTTOMETTE " - sample Z1S - SM - magnification 40 x



L:103um

**Fig.6** " IL MERCATO TI SOTTOMETTE " - sample Z1S - SM - magnification 40 x



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