

<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 e Coviolo
<b>ARTIST:</b>	KENOR (Proyecto Ritual)
<b>TITLE OF THE WORK:</b>	Big Sacral Bird
<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	Identification methods	Results	Identification methods	Results	Identification methods	Results
1	K1	X				FTIR-ATR	Alkyd resin	-		Stereomicroscopy on sample fragments	Stratigraphy: a. Ground layer b. Yellowish ground layer c. White prime coating d. Greenish-yellowish paint layer e. light blue paint layer

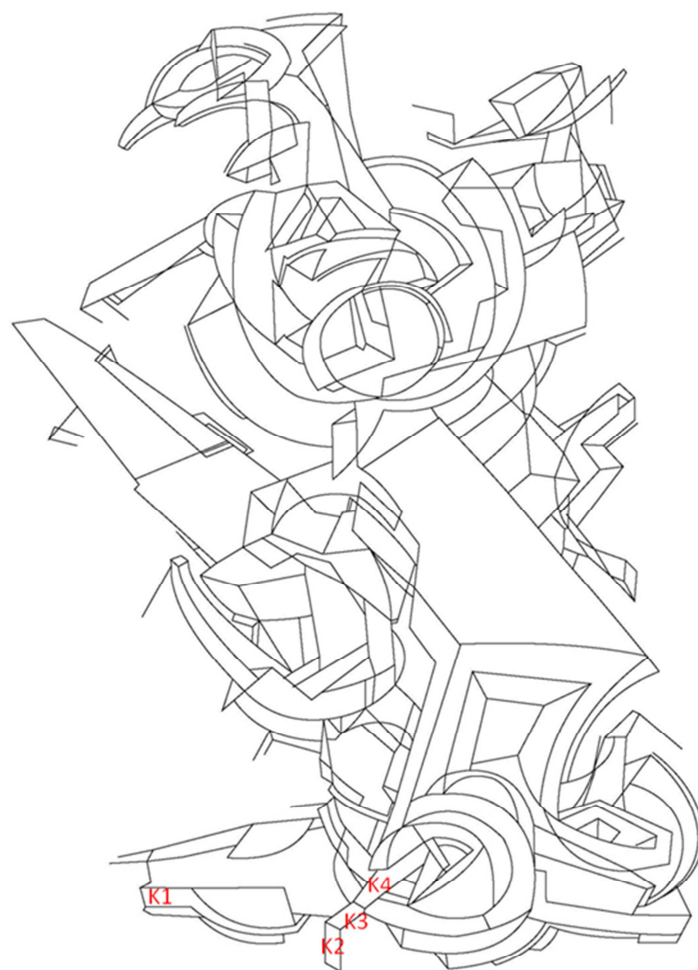
2	K2	X		μ- Raman on the cross-section sample	Rutile is ubiquitous and mainly present in the patina. The orange color is due to P034 – Diazopyrazolone and PY74 acetoacetic arylide		Alkyd resin is in the patina layer				Stratigraphy: a.Yellowish ground layer b.Pale orange paint layer c.Pale yellow thin layer (patina)
						Py-GC/MS	Alkyd resin				
3	K3	X				Py-GC/MS	Alkyd resin and PVAc-VEoVA (traces)				Stratigraphy: a.Yellowish ground layer; b.Orange paint layer; c.Pink thin layer (patina)
4	K4 (c)	X		Raman Spectroscopy in situ	Acetoacetic arylide based pigment (PY74) plus probably goethite	FTIR-ATR	Alkyd resin				Stratigraphy: a.Yellowish ground layer; b.Orange paint layer with a glossy whitish

											superficial patina
						Py- GC/MS	Alkyd resin +DEHA (diethyl hexyl adipate, plasticizer)				
5	<b>1 (005)</b>	X		Raman Spectroscop y in situ	Rutile, Phtalocyanine or Hostasol green?						
6	<b>2 (020)</b>	X			Rutile, plus?						
7	<b>11</b>	X			Rutile, Hostopen Violet						
8	<b>12</b>	X			Rutile, Polycyclic pigment, pthalocyanine						
9	<b>a</b>	X			Rutile, PY74 acetoacetic arylide						
10	<b>b</b>	X									
11	<b>014</b>	X			Carbazole dioxazine violet PV23?+Pthalocyanine? Or Hostopen Violet?						
12	<b>d</b>	X		Raman Spectroscop y in situ	probably PY74 acetoacetic arylide or Maybe a disazopigment, pyrazolone (PO?)						
13	<b>e</b>	X			Rutile, Disazopigment, Pyrazolone P034						
14	<b>f (023)</b>	X			Monoazopigment, Naphthol AS PR112						
15	<b>t</b>	X			Rutile, Monoazopigment, acetoacetic arylide PY 74						
16	<b>020</b>	X		Raman	phtalocyanine						

				Spectroscopy in situ							
17	s	X		Raman Spectroscopy in situ	Rutile, Monoazopigment, acetoacetic arylide PY 74						
18	p <sup>1</sup>	X		Raman Spectroscopy in situ	Carbazole dioxazine violet PV23? Calcite?						
19	n	X			Rutile, Monoazopigment, acetoacetic arylide family?						
20	p	X			Rutile, Monoazopigment, acetoacetic arylide PY 74						
21	l	X									
22	v (022)	X			Rutile, Disazopigment, Diarylide PY83						
23	w	X			Rutile, Monoazopigment, acetoacetic arylide PY 74						
24	r	X			Monoazopigment (probably PR48:1 form)						
25	h	X			Rutile, Monoazopigment, acetoacetic arylide family?						
26	013	X			Polycyclic pigment, phthalocyanine (PB15:3?)						

\* mortars, stone, metal ect. \*\* Additional research or analyzes, for example: aging tests, colorimetry, pH...





### Sampling map

- K1 Blu > light blu
- K2 Light orange > pale yellow
- K3 Orange > pink
- K4 Orange > dark orange

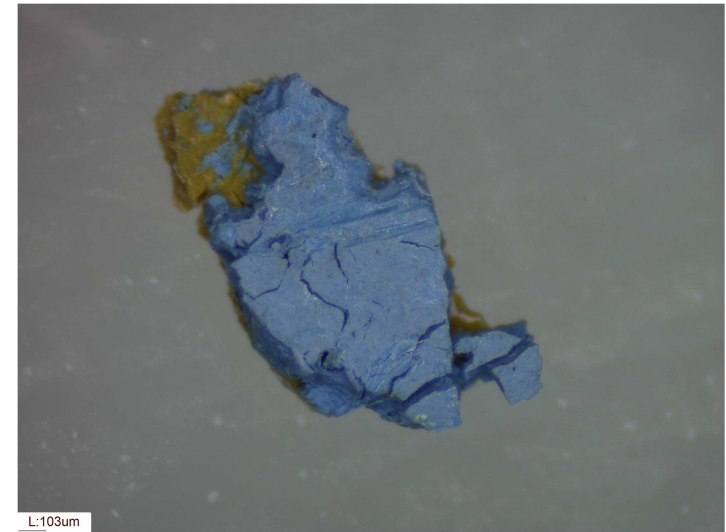
**Fig. 1** “Big Sacral Bird” – sampling location

K1 sample was collected from a light blue area (spray paint) (**fig.2-4**) affected by cracking and fading, it was originally darker. The study of the K1 sample has shown the following structure and composition:

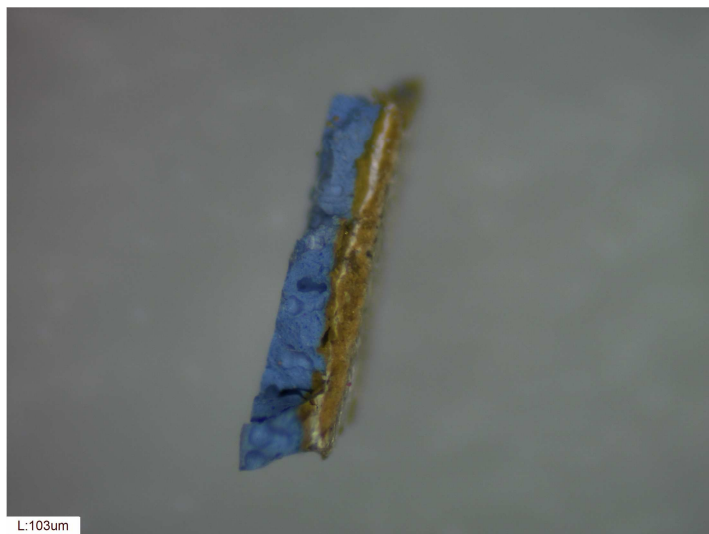
- a)** Traces of the plaster ground layer;
- b)** Yellowish ground layer, regular feature and thickness;
- c)** White paint layer (prime coating?);
- d)** Greenish-yellowish paint layer;
- e)** Very thick and porous light blue paint layer containing alkyd resin



**Fig. 2** “ Big Sacral Bird ” – sample K1 – before sampling



**Fig. 3** “ Big Sacral Bird ” – sample K1 – SM – magnification 40 x



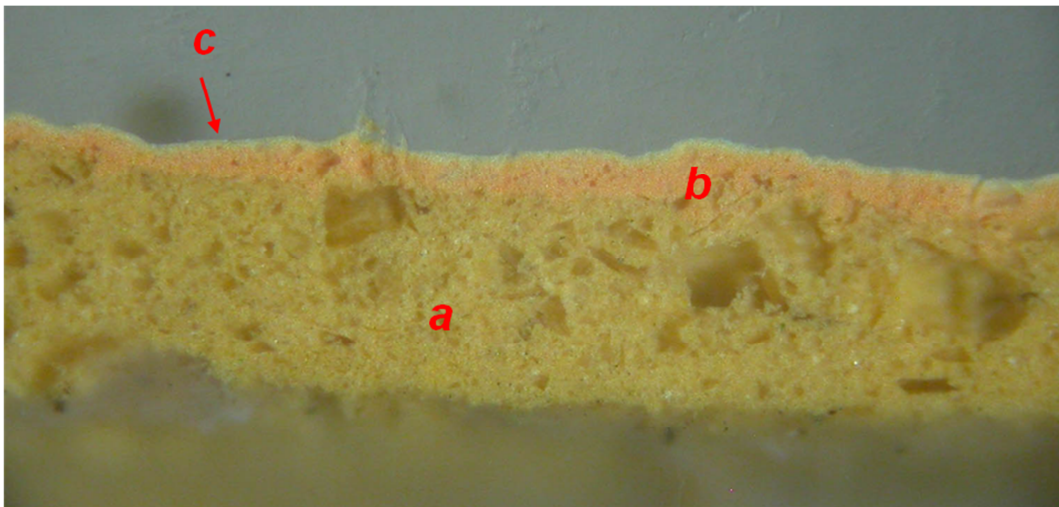
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**Fig. 4** “ Big Sacral Bird ” – sample K1 – SM – magnification 40 x

K2 sample was collected along a crack of a pale yellow area (spray paint) (**fig.1;5-7**) that was originally light orange.

The study of the K2 sample has shown the following structure and composition:

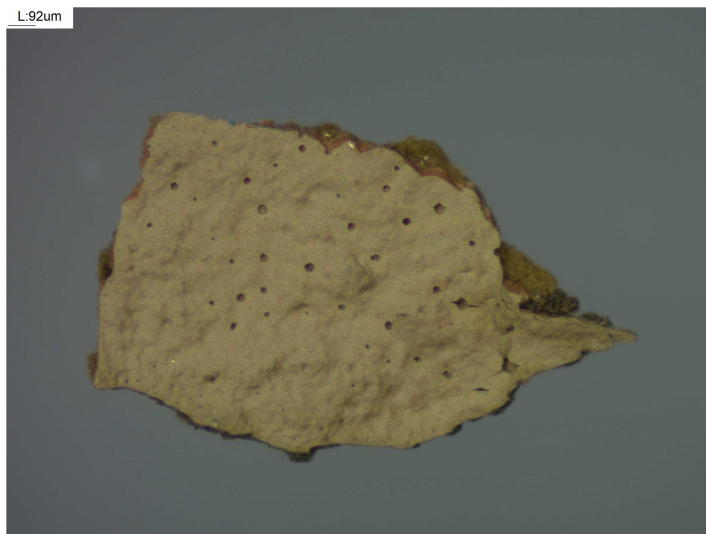
- a)** Yellowish ground layer, regular feature and thickness (about 120  $\mu\text{m}$ ), containing Calcite, Goethite and Rutile.
- b)** Pale orange paint layer containing red pigment P034 Diazopyrazolone and yellow pigment PY74 acetoacetic arylide with Rutile. Regular feature, average thickness of 30  $\mu\text{m}$
- c)** Pale yellow thin layer (patina) mainly composed of Rutile and alkyd resin probably styrene-modified for the peak of aromatic C-H stretching



**Fig. 5** “Big sacral birds” – sample K2 – cross section – reflected Visible light – magnification 180x



**Fig. 6** “Big Sacral Bird ” – sample K2 – after sampling



**Fig. 7** “ Big Sacral Bird ” – sample K2 – SM – magnification 45x

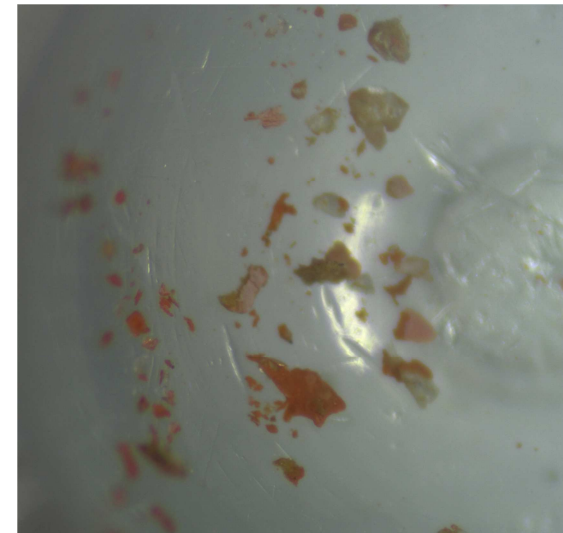


K3 sample was collected along a crack of a pink area (spray paint) (**fig.1,8-9**) that was originally orange. The study of the K3 sample has shown the following structure and composition:

- a)** Yellowish ground layer;
- b)** Orange paint layer;
- c)** Pink thin layer (patina) mainly composed of alkyd resin, confirmed also by Py-GC-MS.



**Fig. 8** “ Big Sacral Bird ” – sample K3 – after sampling



**Fig. 9** “ Big Sacral Bird ” – sample K3 – SM – magnification 45 x

K4 sample was collected along a crack of an orange area (spray paint) (**fig.1,10-11**) that was originally lighter. The study of the K4 sample has shown the following structure and composition:

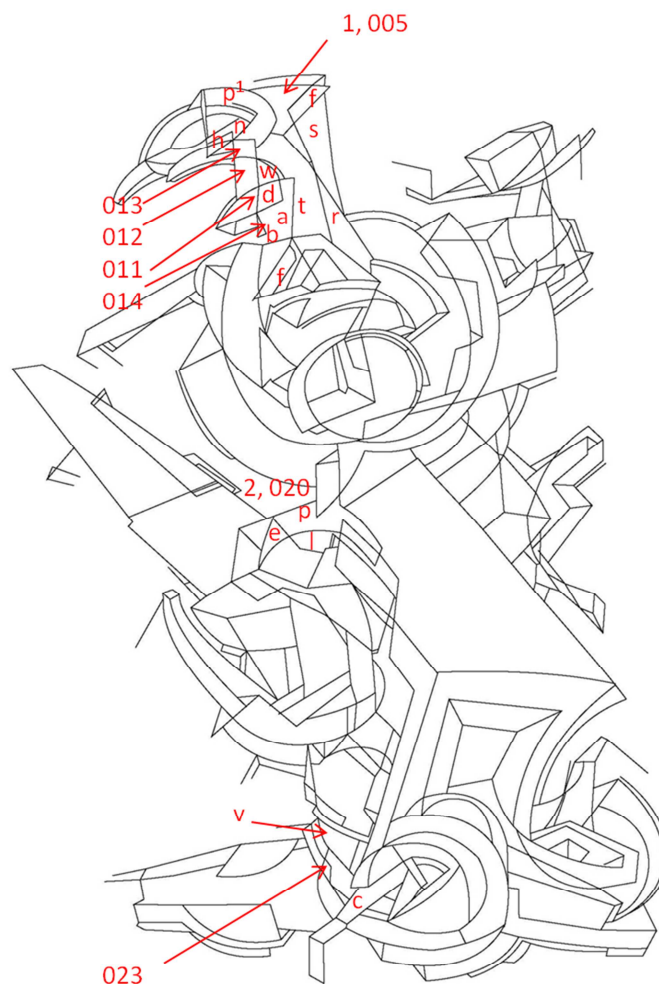
- a)** Yellowish ground layer;
- b)** Orange paint layer with a glossy whitish superficial patina, containing an alkyd resin confirmed by Py-GC/MS, an acetoacetic arylide based pigment (PY74) plus likely goethite. Differences between FTIR spectra collected on the top of the sample and on the inner part have been observed.



**Fig. 10** " Big Sacral Bird " – sample K4 – after sampling



**Fig. 11** " Big Sacral Bird " – sample K4 – SM – magnification 30 x



**Points of measure for in situ Raman sp.:**

- a. Light orange > pale yellow
- b. Orange > pink
- c. Orange > dark orange (K4)
- d. Orange-red > brown
- e. Orange-red > light purple
- f. Red > light Red (023)
- h. Light pink > white
- l. Salmon pink > whitish color
- n. Pink > white
- p. Orange > pink
- p<sup>1</sup>. light violet > dark violet
- r. Purple > violet
- s. Pale yellow > whitish color
- t. Lemon yellow > pale yellow
- v. Gold yellow > light brown (022) ?
- w. Green > greenish color
- 1. Water Green stable color (005)
- 2. Military Green stable color (020)
- 011. Water blue stable color
- 012. Light blue stable color
- 013. Light purple stable color
- 014. Deep blue stable color

**Fig. 12** “ Big Sacral Bird ”– measurement point location



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

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