

Spectral Measurement Data for Paints

1. Data files

\PAINTS folder contains the four files shown in table 1. File names have the form pa_s, where s indicates the type of paint used.

Table 1 Data files for measured paints.

Type of paints	File names	No. of colours
Water colours	pa_a.org	60
New type paints	pa_g.org	60
Oil paints	pa_o.org	91
Old type oil paints	pa_s.org	20

2. Measured objects

Measured paints' colour patches were provided by Turner Colour Works Ltd. and Kusakabe Co., Ltd. Colours in each set are explained in the following subsections in detail.

2.1 Water colours (pa_a)

Sixty colour patches (figure 1) were made for water colours measurement. As water colours, 'Acryl gouache' manufactured by Turner Colour Works Ltd. were used. Table 2 shows colour names of the patches in the TV scan order from top-left to bottom-right. The last three colours are fluorescent colours and measured reflectance has values larger than 1. This may not be adequate for colour reproduction evaluation use.



Figure 1 Sixty colours by 'Acryl gouache'.

2.2 New type paints (pa_g)

Sixty colour patches (figure 2) were made for new type colour paints called 'Golden acrylics', whose properties lie between those of water colours and oil paints. Table 3 shows colour names of the patches in the TV scan order.

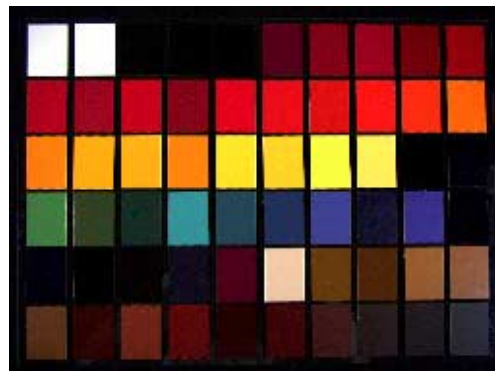


Figure 2 Sixty colours by 'Golden acrylics'.

Table 2 Colour names from patches made of 'Acryl gouache'

1. WHITE	2. NEUTRAL GREY	3. LAMP BLACK	4. JET BLACK	5. PERMANENT LEMON
6. PERMANENT YELLOW	7. PERMANENT YELLOW DEEP	8. PERMANENT YELLOW ORANGE	9. PERMANENT ORANGE	10. PERMANENT SCARLET
11. PERMANENT RED	12. CARMINE	13. CORAL RED	14. JAUNE BRILLIANT	15. NAPLES YELLOW
16. YELLOW OCHER	17. VENETIAN RED	18. BURNT SIENNA	19. SEPIA	20. RAW UMBER
21. CHOCOLATE	22. EMERALD GREEN	23. PERMANENT YELLOW GREEN	24. PERMANENT GREEN LIGHT	25. PERMANENT GREEN MIDDLE
26. PERMANENT GREEN DEEP	27. DEEP GREEN	28. OLIVE GREEN	29. VIRIDIAN(HUE)	30. PEACOCK BLUE
31. SKY BLUE	32. COBALT BLUE (HUE)	33. ULTRAMARINE	34. PRUSSIAN BLUE (HUE)	35. LIGHT BLUE
36. LILAC	37. VIOLET	38. BLUE VIOLET	39. GOLD LIGHT	40. SILVER
41. BLONZE	42. PEARL WHITE	43. CRIMSON	44. RAW SIENNA	45. MUSTARD
46. APRICOT	47. DANDELION	48. AQUA GREEN	49. IVY GREEN	50. BERYL GREEN
51. AQUA BLUE	52. BLUE COMPOSE	53. ULTRAMARINE LIGHT	54. NIGHT BLUE	55. MAGENTA
56. AUBERGINE	57. DEEP PURPLE	58. LUMI . LEMON	59. LUMI . ORANGE	60. LUMI . ROSE

Table 3 Colour names from patches made of 'Golden acrylics'

1. TITANIUM WHITE	2. ZINC WHITE	3. MARS BLACK	4. BONE BLACK	5. CARBON BLACK
6. QUINACRIDONE MAGENTA	7. QUINACRIDONE RED	8. CADMIUM RED DARK	9. NAPHTHOL RED MEDIUM	10. NAPHTHOL RED LIGHT
11. CADMIUM RED MEDIUM	12. PRIMARY MAGENTA	13. PYRROLE RED	14. QUINACRIDONE RED LIGHT	15. PYRROLE RED LIGHT
16. CADMIUM RED LIGHT	17. VAT ORANGE	18. PYRROLE ORANGE	19. CADMIUM ORANGE	20. DIARYLIDE YELLOW
21. CADMIUM YELLOW DARK	22. CADMIUM YELLOW MEDIUM	23. HANSA YELLOW OPAQUE	24. HANSA YELLOW MEDIUM	25. CADMIUM YELLOW LIGHT
26. HANSA YELLOW LIGHT	27. CADMIUM YELLOW PRIMROSE	28. TITANATE YELLOW	29. PHTHALO GREEN (YELLOW SHADE)	30. PHTHALO GREEN (BLUE SHADE)
31. COBALT TITANATE GREEN	32. CHROMIUM OXIDE GREEN	33. COBALT GREEN	34. COBALT TEAL	35. COBALT TURQUOIS
36. CERULEAN BLUE DEEP	37. CERULEAN BLUE, CHROMIUM	38. ULTRAMARINE BLUE	39. COBALT BLUE	40. PHTHALO BLUE (RED SHADE)
41. PHTHALO BLUE (GREEN SHADE)	42. ANTHRAQUINONE BLUE	43. DIOXAZINE PURPLE	44. ULTRAMARINE VIOLET	45. QUINACRIDONE VIOLET
46. TITAN BUFF	47. NICKEL AZO YELLOW	48. TRANSPARENT YELLOW OXIDE	49. YELLOW OXIDE	50. YELLOW OCHRE
51. RAW SIENNA	52. TRANSPARENT RED OXIDE	53. MARS YELLOW	54. RED OXIDE	55. QUINACRIDONE BURNT ORANGE
56. VIOLET OXIDE	57. BURNT SIENNA	58. BURNT UMBER LIGHT	59. BURNT UMBER	60. RAW UMBER



Figure 3 91 colours by Kusakabe's oil paints.

2.3 Oil paints (pa_o and pa_s)

Ninety-one colour patches (figure 3) were made for oil paints measurement. Their measurement data are contained in 'pa_o'. Table 4 shows colour names of the patches in the TV scan order. The file 'pa_s' contains measurement data for old type oil paints which were formerly used by famous painters (e.g. van Gogh) but are not any longer because they contain poisonous heavy metal ingredients. Their colour patches are shown in figure 4 and table 5 shows their colour names.

The paints were painted on common canvas paper for the sake of colour rendering, and no vehicle was used for the oil paints. The paints were painted thick in order to eliminate scattering reflection caused by the rough surface of the canvas.



Figure 4 20 colours by Kusakabe's old type oil paints.