



Taiyo Yuden Co., Ltd. is a Japanese materials and electronics company, situated in Tokyo, which helped pioneer recordable CD-R technology along with Sony and Philips in 1988. The first Cyanine dye based CD-R were formulated and patented by this company, this leads to the implementation of Azo dyes in the formulation of CD-R technology. This change of composition was necessary in order to achieve faster writing speeds.

Abbreviations

ABBREVIATIONS

ΔH	:	Enthalpy
ΔZ_i	:	Step change between the levels
$^{\circ}C$:	Degree centigrade
μ	:	Micron
μA	:	Microampere
μg	:	Microgram
μl	:	Microlitre
\AA	:	Angstrom unit
ABA	:	Abcissic acid
Adj R^2	:	Adjusted correlation coefficient
AN	:	1-amino-2-naphthol
ANOVA	:	Analysis of variance
BLAST	:	Basic local alignment search Tool
BOD	:	Biological oxygen demand
BSA	:	Bovine serum albumin
CCD	:	Central composite design
CI	:	Color index
COD	:	Chemical oxygen demand
C-H	:	Carbon-hydrogen bond
C-source	:	Carbon source
CV	:	Cyclic voltammeter
d	:	Day
D %	:	Percentage of dye decolorization
Da	:	Dalton
DEAE	:	Diethylaminoethyl
DI	:	Deionised water
DNA	:	Deoxyribonucleic acid
DO	:	Dissolved oxygen
DSC	:	Differential scanning calorimetry

Dt.	:	District
e^-	:	Electron
EC	:	Enzyme commission number
EDTA	:	Ethylene diamine tetra acetic acid
E_t	:	Total enzyme concentration
Fe^+	:	Ferrous ion
Fig	:	Figure
FMN	:	Flavin mono nucleotide
FP	:	Forward primer
Ft	:	Femtoliter
FTIR	:	Fourier transform Infrared
F-test	:	Fisher's test
g	:	Gram
$g\text{ l}^{-1}$:	Gram per litre
GDP	:	Gross domestic product
GFP	:	Green fluorescent protein
Hb	:	Hemoglobin
Hct	:	Hematocrit
hr	:	Hour
hrs	:	Hours
HPLC	:	High pressure liquid chromatography
Hz	:	Hertz
ITS	:	Internal transcribed spacer
K	:	Kelvin
k_{cat}	:	Turnover number
k_{cat}/K_m	:	Specificity constant
KDa	:	Kilo dalton
K_m	:	Michaelis–Menten constant
LD ₅₀	:	Mean lethal dose
l	:	Liter
MCV	:	Mean corpuscular volume
mg	:	Milligram

mg ^l ⁻¹	:	Milligram per litre
min	:	Minute
mins	:	Minutes
ml	:	Millilitre
mlhr ⁻¹	:	Millilitre per hour
mM	:	Millimolar
mm	:	Millimetre
mmol	:	Millimoles
NADH	:	Nicotinamide adenine dinucleotide (reduced)
NCBI	:	National center for biotechnology information
nm	:	Nanometer
nmol	:	Nanomoles
N-source	:	Nitrogen source
O ₂	:	Oxygen
OD	:	Optical density
OH ⁻	:	Hydroxide anion
ORF	:	Open reading frame
PAGE	:	Polyacrylamide gel electrophoresis
PB design	:	Plackett–Burman design
PCV	:	Packed cell volume
PDA	:	Potato dextrose agar
pH	:	Negative logarithm of the hydronium ions
ppm	:	Parts per million (10 ⁻⁶)
R ²	:	Correlation coefficient
rDNA	:	Recombinant deoxyribonucleic acid
RNA	:	Ribonucleic acid
RP	:	Reverse primer
rpm	:	Revolution per minute
RSD	:	Relative standard deviation
RSM	:	Response surface methodology
S	:	Sedimentation coefficient
SA	:	Sulfanilic acid

SCGE	:	Single cell gel electrophoresis
SDS	:	Sodium dodecyl sulfate
sec	:	Second
SEM	:	Standard error mean
SEM	:	Scanning electron microscopy
TAE	:	Tris-acetate-EDTA
T _{BP}	:	Break point temperature
TDS	:	Total dissolved solid
TEOS	:	Tetraethoxysilane
T _m	:	Transition midpoint temperature
TMOES	:	Tetramethoxysilane
t-test	:	Student's test
U	:	Unit
UV	:	Ultraviolet
V	:	Voltage
vv ⁻¹	:	Volume/volume
V _{max}	:	Maximum reaction velocity
WV ⁻¹	:	Weight/ Volume
X _i	:	Coded value of the variable
Y	:	Actual value
\hat{Y}	:	Predicted response
Z _i	:	Actual value (uncoded) of the variable
Z _i *	:	Center point value
β_0	:	Constant
β_i	:	Linear terms coefficients
β_{ii}	:	Quadratic terms coefficients
β_{ij}	:	Interaction coefficients
ϵ	:	Epsilon (molar absorption coefficient)
λ_{max}	:	Wavelength of maximum absorption