

Title	Interpretable AI Explores Effective Components of CAD/CAM Resin Composites
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Citation	Journal of Dental Research. 2022, 101(11), p. 1363-1371
Version Type	AM
URL	<a href="https://hdl.handle.net/11094/88501">https://hdl.handle.net/11094/88501</a>
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Note	

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# Table 1

Trade name	Manufacturer	Composition			Flexural strength (MPa)
		Monomer	Filler	Filler content (wt%)	
Cerasmart	GC, Tokyo, Japan	UDMA, Bis-MEPP	SiO <sub>2</sub> , Barium glass	71	174.2
Katana Avencia Block	Kuraray Noritake	UDMA, Methacrylatemonomer	SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub>	62	198.2
Katana Avencia P Block	Dental, Niigata, Japan	UDMA	SiO <sub>2</sub> , Barium glass, Methacrylate mixed filler	82	270
Shofu Block HC	Shofu, Kyoto, Japan	UDMA, TEGDMA	SiO <sub>2</sub> , ZrSiO <sub>4</sub> , Micro-fumed silica	68	132
Shofu Block HC Hard		UDMA	SiO <sub>2</sub> , ZrSiO <sub>4</sub> , Micro-fumed silica	76	227
KZR-CAD HR2	Yamakin, Osaka, Japan	UDMA, TEGDMA	SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> -zirconia filler	74	162
Estelite Block	Tokuyama Dental	UDMA, TEGDMA	SiO <sub>2</sub> , SiO <sub>2</sub> -zirconia filler	70	195
Estelite P Block	Tokuyama Dental	UDMA, NPGDMA, Bis-MEPP	SiO <sub>2</sub> , SiO <sub>2</sub> -zirconia filler	81	257
Brillant Crios	Coltene, Switzerland	TEGDMA, Bis-GMA, Bis-EMA	SiO <sub>2</sub> , Barium glass	71	213
Lava Ultimate	3M ESPE, St. Paul, MN, USA	UDMA, TEGDMA, Bis-GMA, Bis-EMA	SiO <sub>2</sub> , ZrO <sub>2</sub> , SiO <sub>2</sub> -zirconia filler	79	197.7
Paradigm MZ 100		TEGDMA, Bis-GMA	SiO <sub>2</sub> , SiO <sub>2</sub> -zirconia filler	85	189.7
Tetric CAD	Ivoclar Vivadent, Schaan Liechtenstein	UDMA, TEGDMA, Bis-GMA, Bis-EMA	SiO <sub>2</sub> , Barium glass	71	185

# Table 2

Model	RMSE (MPa)	MAE (MPa)	$R^2$ -value	Percentage of predictions within the relative error of				
				1%	2.5%	5%	10%	15%
RF	5.643	4.753	0.947	20.83	58.33	91.67	100.00	100.00
ET	1.240	0.725	0.997	95.83	95.83	100.00	100.00	100.00
GBDT	1.179	0.761	0.998	91.67	100.00	100.00	100.00	100.00
LightGBM	3.167	2.097	0.983	70.83	87.50	100.00	100.00	100.00
XGBoost	6.639	4.142	0.927	29.17	75.00	91.67	95.83	100.00