

Table S1. List of dentin bonding agents (DBAs) investigated, their compositions and pH values.

DBAs	Chemical Composition	pH Value
Clearfil S3-Bond Kuraray Medical Inc., Tokyo, Japan	2-hydroxyethyl methacrylate Bis-phenol A diglycidylmethacrylate 10-Methacryloyloxydecyl dihydrogen phosphate Silanated colloidal silica dl-Camphorquinone Ethyl alcohol Water	2.7
G-Bond GC Corp., Tokyo, Japan	4-methacryloxyethyltrimellitate anhydride Triethylene glycol dimethacrylate Urethane dimethacrylate Acetone Water	>2
Clearfil Protect Bond Kuraray Medical Inc.	10-Methacryloyloxydecyl dihydrogen phosphate Bis-phenol A diglycidylmethacrylate 2-hydroxyethyl methacrylate Hydrophobic dimethacrylate dl-Camphorquinone N,N-Diethanol-p-toluidine Silanated colloidal silica Surface treated sodium fluoride	~2
Scotchbond 1 XT 3M-ESPE, St Paul, USA	Bis-GMA 2-hydroxyethyl methacrylate Hydrophobic dimethacrylate Polyalkenoic acid copolymer Ethyl alcohol Water	5
Bond Force Tokujama Dental, Tokyo, Japan	AlcoholC2-4 alkil Methacryloyloxyalkyl acid phosphate 2-Hydroxyethyl methacrylate Bis-GMA Triethylene glycol dimethacrylate Camphorquinone Purified water	2.3

Table S2. Application procedures for the four DBAs investigated in the study.

DBAs	Application Mode	Adhesive Classification
G-Bond	The DBA was applied in one coat using the micro-tip applicator and left undisturbed for 10 sec. It was dried thoroughly for 5 sec with oil-free air under maximum air pressure. Then it was light-cured for 20 sec.	One-step self-etching system
Clearfil S3-Bond	The DBA was applied to dentin for 20 sec. It was air dried for 5 sec to evaporate the solvent. Then it was light-cured for 20 sec.	One-step self-etching system
Clearfil Protect Bond	Primer was applied in two consecutive coats and left undisturbed for 20 sec, then the solvent was evaporated for 10 sec.	Two-step self-etching system

	Bonding was applied in two consecutive coats and spread using a gentle stream of oil free air for 2 sec. Then it was light cure for 20 sec.	
Scotchbond 1 XT	DBA was applied in two consecutive coats and spread using a gentle stream of oil free air for 5 sec. to evaporate the solvent. Then it was light-cured for 20 sec	Two-step total etch system
Bond Force	The DBA was applied to dentin for 20 sec. It was air dried for 5 sec to evaporate the solvent. Then it was light-cured for 20 sec.	One-step self-etching system