

Name

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Sample # :

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GROWTH RINGS		
1	□	1. Boundaries distinct
2	□	2. Boundaries indistinct or absent
POROSITY		
3	□	3. Ring-porous
4	□	4. Semi-ring-porous
5	□	5. Diffuse-porous
VESSEL ARRANGEMENT		
6	□	6. Tangential bands
7	□	7. Diagonal and/or radial pattern
8	□	8. Dendritic pattern
VESSEL GROUPINGS		
9	□	9. Exclusively solitary (90% or more)
10	□	10. Radial multiples of 4 or more common
11	□	11. Clusters common
SOLITARY VESSEL OUTLINE		
12	□	12. Solitary vessel outline angular
PERFORATION PLATES		
13	□	13. Simple
14	□	14. Scalariform
15	□	15. With up to 10 bars
16	□	16. With 10-20 bars
17	□	17. With 20-40 bars
18	□	18. With 40 or more bars
19	□	19. Reticulate, foraminatae, &/or other types
INTERVESSEL PITS: ARRANGEMENT AND SIZE		
20	□	20. Scalariform
21	□	21. Opposite
22	□	22. Alternate
23	□	23. Shape of alternate pits polygonal
INTERVESSEL PIT SIZE: ALTERNATE AND OPPOSITE		
24	□	24. Minute (4 μm or less)
25	□	25. small (4-7 μm)
26	□	26. Medium (7-10 μm)
27	□	27. Large (10 μm or more)
28	□	NOT USED 28. Range of intervessel pit size (μm)
VESTURED PITS		
29	□	29. Vestured pits
VESSEL-RAY PITTING		
30	□	30. With distinct borders: sim. to i.v. pits in size & shape (all)
31	□	31. With reduced borders to simple: pits round or angular
32	□	32. With reduced borders to simple: pits horizontal to vertical
33	□	33. Two distinct sizes or types in the same ray cell
34	□	34. Unilaterally compound and coarse (over 10 μm)
35	□	35. Restricted to marginal rows
HELICAL THICKENINGS		
36	□	36. Helical thickenings in vessel elements present
37	□	37. Throughout body of vessel element
38	□	38. Only in vessel element tails
39	□	39. only in narrower vessel elements
MEAN TANGENTIAL DIAMETER OF VESSEL LUMINA		
40	□	40. 50 μm or less
41	□	41. 50-100 μm
42	□	42. 100-200 μm
43	□	43. 200 μm or more
44	□	NOT USED 44. Mean +/- Standard Deviation. Range n = x
45	□	45. 2 distinct diameter classes, not ring-porous
VESSELS per SQUARE MILLIMETER		
46	□	46. 5 or less
47	□	47. 5-20
48	□	48. 20-40
49	□	49. 40-100
50	□	50. 100 or more
51	□	NOT USED 51. Mean +/- Standard Deviation. Range n = x
MEAN VESSEL ELEMENT LENGTH		
52	□	52. 350 μm or less
53	□	53. 350-800 μm
54	□	54. 800 μm or more
55	□	NOT USED 55. Mean +/- Standard Deviation. Range n = x

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TYLOSES AND DEPOSITS IN VESSELS		
56	□	56. Tyloses common
57	□	57. Tyloses sclerotic
58	□	58. Gums and other deposits in heartwood vessels
WOOD VESSELLESS		
59	□	59. Wood vesselless
IMPERFORATE TRACHEARY ELEMENTS		
60	□	60. Vascular/vasicentric tracheids
GROUND TISSUE FIBERS		
61	□	61. Fibers with simple to minutely bordered pits
62	□	62. Fibers with distinctly bordered pits
63	□	63. Fiber pits common in both radial and tangential walls
HELICAL THICKENINGS in IMPERFORATE TRACHEARY		
64	□	64. Helical thickenings in ground tissue fibers
SEPTATE FIBERS and parenchyma-like fiber bands		
65	□	65. Septate fibers present
66	□	66. Non-septate fibers present
67	□	67. Parenchyma-like fiber bands alternating with ordinary fibers
FIBER WALL THICKNESS		
68	□	68. Very thin-walled
69	□	69. Thin to thick-walled
70	□	70. Very thick-walled
MEAN FIBER LENGTHS		
71	□	71. 900 μm or less
72	□	72. 900-1600 μm
73	□	73. 1600 μm or more
74	□	NOT USED 74. Mean +/- Standard Deviation. Range n = x
AXIAL PARENCHYMA		
75	□	75. Absent or extremely rare
APOTRACHEAL AXIAL PARENCHYMA		
76	□	76. Diffuse
77	□	77. Diffuse-in-aggregates
PARATRACHEAL AXIAL PARENCHYMA		
78	□	78. Scanty paratracheal
79	□	79. Vasicentric
80	□	80. Aliform
81	□	81. Lozenge-aliform
82	□	82. Winged-aliform
83	□	83. Confluent
84	□	84. Unilateral paratracheal
BANDED PARENCHYMA		
85	□	85. Bands >3 cells wide
86	□	86. Narrow bands ≤ 3 cells wide
87	□	87. reticulate
88	□	88. Scalariform
89	□	89. Marginal or ~marginal bands
AXIAL PARENCHYMA CELL TYPE/STRAND LENGTH		
90	□	90. Fusiform parenchyma cells
91	□	91. Two cells per strand
92	□	92. Four (3-4) cells per strand
93	□	93. Eight (4-8) cells per strand
94	□	94. Over eight cells per strand
95	□	95. Unligified parenchyma
RAY WIDTH		
96	□	96. exclusively uniseriate
97	□	97. 1 to 3 cells wide
98	□	98. Larger rays commonly 4 to 10 seriate
99	□	99. Larger rays commonly > 10-seriate
100	□	100. Width of multiseriate portion = uniseriate portion
AGGREGATE RAYS		
101	□	101. Aggregate rays
RAY HEIGHT		
102	□	102. Ray height > 1 mm
RAYS OF TWO DISTINCT SIZES		
103	□	103. Rays of two distinct sizes
RAYS: CELLULAR COMPOSITION		
104	□	104. All ray cells procumbent
105	□	105. All ray cells square and/or upright
106	□	(106-108) Body ray cells procumbent :
106	□	106. With 1 row upright &/or square marginal cells
107	□	107. With 2-4 rows upright &/or square cells
108	□	108. With >4 rows upright and/or square cells
109	□	109. Procumbent, square, upright mixed through ray

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SHEATH CELLS		
110		110. Sheath cells
111		111. Tile cells
RAY CELLS		
112		112. Perforated ray cells
DISJUNCTIVE RAY PARENCHYMA CELL WALLS		
113		113. Disjunctive ray parenchyma cell walls
RAYS PER MM.		
114		114. < 4/mm
115		115. 4-12/mm
WOOD RAYLESS		
117		117. Wood rayless
STORIED STRUCTURE		
118		118. All rays storied
119		119. Low rays storied, high rays non-storied
120		120. Axial parenchyma and/or vessel elements storied
121		121. Fibers storied
122		122. Rays and/or axial elements irregularly storied
123		123. Number of ray tiers per axial mm
OIL and MUCILAGE CELLS		
124		124. Associated with ray parenchyma
125		125. Associated with axial parenchyma
126		126. Present among fibers
INTERCELLULAR CANALS		
127		127. Axial canals in long tangential lines
128		128. Axial canals in short tangential lines
129		129. Axial canals diffuse
130		130. Radial canals
131		131. Intercellular canals of traumatic origin
TUBES/TUBULES		
132		132. Laticifers or tanniferous tubes
CAMBIAL VARIANTS		
133		133. Included phloem, concentric
134		134. Included phloem, diffuse
135		135. Other cambial variants
PRISMATIC CRYSTALS		
136		136. Prismatic crystals:
137		137. In upright/square ray cells
138		138. In procumbent ray cells
139		139. In radial alignment in procumbent ray cells
140		140. In chambered upright and/or square cells
141		141. In non-chambered axial parenchyma cells
142		142. In chambered axial parenchyma cells
143		143. In fibers
DRUSES		
144		144. Druses present
145		145. In ray parenchyma cells
146		146. In axial parenchyma cells
147		147. In fibers
148		148. In chambered cells
OTHER CRYSTAL TYPES		
149		149. Raphides
150		150. Acicular crystals
151		151. Styloids and / or elongate crystals
152		152. Crystals of other shapes (mostly small)
153		153. Crystal sand
OTHER DIAGNOSTIC CRYSTAL FEATURES		
154		154. More than one crystal of about the same size per cell or chamber
155		155. Two distinct sizes of crystals per cell or chamber
156		156. Crystals in enlarged cells
157		157. Crystals in tyloses
158		158. Crystoliths
SILICA		
159		159. Silica bodies present
160		160. In ray cells
161		161. In axial parenchyma cells
162		162. In fibers
163		163. Vitreous silica

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Non-anatomical information

GEOGRAPHICAL DISTRIBUTION		
164		164. Europe & temperate Asia (Br. & Fr. region 74)
165		165. Europe excluding Mediterranean
166		166. Mediterranean including N. Africa, Middle East
167		167. Temperate Asia including China, Japan, Russia
168		168. Central South Asia (Br. & Fr. region 75)
169		169. India, Pakistan, Sri Lanka
170		170. Burma
171		171. Southeast Asia & Pacific (Br. & Fr. region 76)
172		172. Thailand, Laos, Vietnam, Cambodia (Indochina)
173		173. Indomalaysia: Indonesia, Philippines, Malaysia, Brunei, Papua New Guinea, Solomon Islands
174		174. Pacific Islands including New Caledonia, Samoa, Hawaii
175		175. Australia & New Zealand (Br. & Fr. region 77)
176		176. Australia
177		177. New Zealand
178		178. Tropical Africa & adjacent islands (Br. & Fr. region 78)
179		179. Tropical Africa
180		180. Madagascar, Mauritius, Reunion, Comores
181		181. Southern Africa south of Tropic of Capricorn (Br. & Fr. region 79)
182		182. North America north of Mexico (Br. & Fr. region 80)
183		183. Neotropics & temperate Brazil (Br. & Fr. region 81)
184		184. Mexico and Central America
185		185. Caribbean
186		186. Tropical South America
187		187. Southern Brazil
188		188. Temperate South America including Chile, Argentina, Uruguay, South Paraguay (Br. & Fr. region 76)
HABIT		
189		189. Tree
190		190. Shrub
191		191. Vine/liana
WOOD of COMMERCIAL IMPORTANCE		
192		192. Wood of commercial importance
SPECIFIC GRAVITY		
193		193. Basic specific gravity low, 0.40 or less
194		194. Basic specific gravity medium, 0.40-0.75
195		195. Basic specific gravity high, 0.75 or more
HEARTWOOD COLOR		
196		196. Heartwood color darker than sapwood color
197		197. Heartwood basically brown or shades of brown
198		198. Heartwood basically red or shades of red
199		199. Heartwood basically yellow or shades of yellow
200		200. Heartwood basically white to gray
201		201. Heartwood with streaks
202		202. Heartwood not as above
ODOR		
203		203. Distinct odor
204		NOT USED 204. Heartwood fluorescent
WATER and ETHANOL EXTRACTS: fluorescence and color		
205		205. Water extract fluorescent
206		206. Water extract colorless to brown or shades of brown
207		207. Water extract red or shades of red
208		208. Water extract yellow or shades of yellow
209		209. Water extract not as above
210		210. Ethanol extract fluorescent
211		211. Ethanol extract colorless to brown or shades of brown
212		212. Ethanol extract red or shades of red
213		213. Ethanol extract yellow or shades of yellow
214		214. Ethanol extract not as above
FROTH TEST		
215		NOT USED 215. Froth test positive
CHROME AZUROL-S TEST		
216		NOT USED 216. Chrome Azurol-S test positive
BURNING SPLINTER TEST		
217		217. Burns to charcoal
218	NOT	218. Burns to a full ash; color of ash bright white
219	USED	219. Burns to a full ash; color of ash bright yellow-brown
220		220. Burns to a full ash; color of ash not as above
221		221. Burns to a partial ash