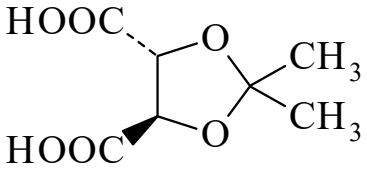
>>**Entry Name: 2,2-Dimethyl-1,3-dioxolane-4,5-dicarboxylic acid,** 9CI
**Synonym(s):** 2,3-*O*-Isopropylidenetartaric acid




(4*R*,5*R*)-*form*

**Related CAS Registry Numbers(s):** 116499-08-2

**Molecular Formula:** $C_7H_{10}O_6$
**Molecular Weight:** 190.152
**Accurate Mass:** 190.04774
**Percentage Composition:** C 44.22%; H 5.30%; O 50.48%
**Use/Importance:** The (4*R-trans*) and (4*S-trans*) forms of the di-Me ester are valuable chiral intermeds.

>>**Variant:** (4*R*,5*R*)-form
**Synonym(s):** (–)-*trans*-form

**CAS Registry Number:** 83529-40-2
**Molecular Formula:** $C_7H_{10}O_6$
**Molecular Weight:** 190.152
**Accurate Mass:** 190.04774
**Percentage Composition:** C 44.22%; H 5.30%; O 50.48%

>>**Derivative:** Di-Me ester

**CAS Registry Number:** 37031-29-1
**Molecular Formula:** $C_9H_{14}O_6$
**Molecular Weight:** 218.206
**Accurate Mass:** 218.07904
**Percentage Composition:** C 49.54%; H 6.47%; O 43.99%
**Physical Description:** Light green liq.
**Boiling Point:** $Bp_{19}$ 150°
**Optical Rotation:** $[\alpha]_D^{25}$ –62 (neat). $[\alpha]_D^{25}$ –44 (c, 1 in $CHCl_3$)
**Density:** $d_4^{2C}$ 1.19
**Refractive Index:** $n_D^{20}$ 1.4390
**Aldrich:** 35906-8
**Fluka:** 59542

>>**Variant:** (4*S*,5*S*)-form
**Synonym(s):** (+)-*trans*-form

**CAS Registry Number:** 126581-14-4
**Molecular Formula:** $C_7H_{10}O_6$
**Molecular Weight:** 190.152
**Accurate Mass:** 190.04774
**Percentage Composition:** C 44.22%; H 5.30%; O 50.48%

>>**Derivative:** Di-Me ester

**CAS Registry Number:** 37031-30-4
**Boiling Point:** $Bp_{0.1}$ 80-82°
**Optical Rotation:** $[\alpha]_D^{20}$ +54 (neat)
**Refractive Index:** $n_D^{20}$ 1.4390
**Aldrich:** 38431-3
**Fluka:** 59543

>>**Derivative:** Diisopropyl ester

**Molecular Formula:** $C_{13}H_{22}O_6$
**Molecular Weight:** 274.313
**Accurate Mass:** 274.14164
**Percentage Composition:** C 56.92%; H 8.08%; O 35.00%
**Physical Description:** Solid (diisopropyl ether)
**Melting Point:** Mp 41.5-42.5°
**Optical Rotation:** $[\alpha]_D^{22}$ +43.8 (c, 3.8 in $CHCl_3$)

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