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Θ[K_] := Module[{Cs, φ, n, A, Δ, G, ev, θ},
  {Cs, φ} = Rot[K]; n = Length[Cs];
  A = IdentityMatrix[2 n + 1];
  Cases[Cs, {s_, i_, j_} := (A[[{i, j}, {i + 1, j + 1}]] += (

$$\begin{pmatrix} -T^s & T^s & -1 \\ \theta & & -1 \end{pmatrix}$$

))]];
  Δ = T^(-Total[φ] - Total[Cs[[All, 1]])/2) Det[A];
  G = Inverse[A];
  ev[ε_] := Factor[ε /. gv, α, β := (G[[α, β]] /. T → Tv)];
  θ = ev[Sumk1=1n Sumk2=1n R12[Cs[[k1]], Cs[[k2]]]];
  θ += ev[Sumk=1n R11[Cs[[k]]]];
  θ += ev[Sumk=12 n Γ1[φ[[k]], k]];
  Factor@{Δ, (Δ /. T → T1) (Δ /. T → T2) (Δ /. T → T3) θ}
];

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