

Efficient Weighted Counting of Multiset Derangements

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Dedicated to Mourad El-Houssieny ISMAIL (born April 27, 1944), with friendship and admiration

$$\begin{aligned} & 626486325682388256883179081695232 \alpha^{26} + \\ & 3948815860811007759557670403206807552 \alpha^{25} + \\ & 4226160446928101410675933447042193424384 \alpha^{24} + \\ & 1829313185198525509532452983498671376039936 \alpha^{23} + \\ & 425955227133577312273392421310068029118218240 \alpha^{22} + \\ & 61568711382255715699343414832865761752795578368 \alpha^{21} + \\ & 6015599331237497842549834616372527226200006852608 \alpha^{20} + \\ & 420030513102996289545618495318355347968579239673856 \alpha^{19} + \\ & 21779385529606788308065066752435641655566027030790144 \alpha^{18} + \\ & 861931009463580565142515454351924475556603802576486400 \alpha^{17} + \\ & 26556926811772603306934511893782498309330811792400580608 \alpha^{16} + \\ & 646219419386602045907824228576682527851206056554484727808 \alpha^{15} + \\ & 12544166147808400841334081628081554018739662394272604225536 \alpha^{14} + \\ & 195525408546538912690378251287680488219792943092212919435264 \alpha^{13} + \\ & 2455695605166443718371007842011087818790955115435503879454720 \alpha^{12} + \\ & 24867048146672227309345666989913796704728810126752820020379648 \alpha^{11} + \\ & 202569793911613274182929019082185092261014157201085369153486848 \alpha^{10} + \\ & 1320388339665569428585764027609539765653334771119656423470923776 \alpha^9 + \\ & 6825167923093955037138102373992833000704975000443998456569135104 \alpha^8 + \\ & 27602809328921835313793682068121303712142304270099611821308641280 \alpha^7 + \\ & 85647342705993322148148235777401007447932223607159691210985046016 \alpha^6 + \\ & 198159663830900044042641789039253865122617020230065397080602443776 \alpha^5 + \\ & 327547473685724687587188995032714624999930689030717701980120154112 \alpha^4 + \\ & 361148215004517312493645900517444844168859774724070502768740139008 \alpha^3 + \\ & 234426065400514976953417524798811902707109969381695319447196139520 \alpha^2 + \\ & 66394948050946830932484058263644488672722608355067055619597926400 \alpha \quad . \end{aligned}$$