



GLOBAL JOURNAL OF SCIENCE FRONTIER RESEARCH
MATHEMATICS AND DECISION SCIENCES

Volume 13 Issue 5 Version 1.0 Year 2013

Type : Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals Inc. (USA)

Online ISSN: 2249-4626 & Print ISSN: 0975-5896

Formation of a Summation Formula in Connection with Hypergeometric and Gamma Function

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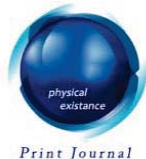
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GJSFR-F Classification : *MSC 2010: 11S80, 40A25*



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Formation of a Summation Formula in Connection with Hypergeometric and Gamma Function

Salahuddin^α & Intazar Husain^σ

Abstract - The main objective of the present paper is to establish a summation formula in connection with Hypergeometric and Gamma function.

Keywords and Phrases : contiguous relation, gauss second summation theorem, recurrence relation .

1. INTRODUCTION

Generalized Gaussian Hypergeometric function of one variable is defined by

$${}_A F_B \left[\begin{matrix} a_1, a_2, \dots, a_A ; \\ b_1, b_2, \dots, b_B ; \end{matrix} z \right] = \sum_{k=0}^{\infty} \frac{(a_1)_k (a_2)_k \dots (a_A)_k z^k}{(b_1)_k (b_2)_k \dots (b_B)_k k!}$$

or

$${}_A F_B \left[\begin{matrix} (a_A) ; \\ (b_B) ; \end{matrix} z \right] \equiv {}_A F_B \left[\begin{matrix} (a_j)_{j=1}^A ; \\ (b_j)_{j=1}^B ; \end{matrix} z \right] = \sum_{k=0}^{\infty} \frac{((a_A))_k z^k}{((b_B))_k k!} \quad (1)$$

where the parameters $b_1, b_2, \dots, b_B$ are neither zero nor negative integers and A, B are non-negative integers and $|z| = 1$.

Contiguous Relation is defined by

[Andrews p.363(9.16)]

$$(a-b) {}_2 F_1 \left[\begin{matrix} a, b ; \\ c ; \end{matrix} z \right] = a {}_2 F_1 \left[\begin{matrix} a+1, b ; \\ c ; \end{matrix} z \right] - b {}_2 F_1 \left[\begin{matrix} a, b+1 ; \\ c ; \end{matrix} z \right] \quad (2)$$

Gauss second summation theorem is defined by [Prudnikov, 491(7.3.7.8)]

$${}_2 F_1 \left[\begin{matrix} a, b ; \\ \frac{a+b+1}{2} ; \end{matrix} \frac{1}{2} \right] = \frac{\Gamma(\frac{a+b+1}{2}) \Gamma(\frac{1}{2})}{\Gamma(\frac{a+1}{2}) \Gamma(\frac{b+1}{2})} \quad (3)$$

$$= \frac{2^{(b-1)} \Gamma(\frac{b}{2}) \Gamma(\frac{a+b+1}{2})}{\Gamma(b) \Gamma(\frac{a+1}{2})} \quad (4)$$

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Recurrence relation is defined by

$$\Gamma(z+1) = z \Gamma(z) \quad (5)$$

II. MAIN SUMMATION FORMULA

$$\begin{aligned}
 {}_2F_1 \left[\begin{matrix} a, & b & ; \\ \frac{a+b+38}{2} & ; & \frac{1}{2} \end{matrix} \right] &= \frac{2^b \Gamma(\frac{a+b+38}{2})}{(a-b) \Gamma(b)} \times \\
 \times \left[\frac{\Gamma(\frac{b}{2})}{\Gamma(\frac{a}{2})} \left\{ \frac{262144(-46620662575398912000a + 80177108784198451200a^2 - 59690268905460203520a^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \right. \\
 + \frac{262144(25941016178319163392a^4 - 7448984828674965504a^5 + 1511475811264036864a^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(-225747898745241600a^7 + 25468769585086464a^8 - 2205749914587648a^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(147948773077248a^{10} - 7705944829440a^{11} + 310606256896a^{12} - 9588825792a^{13})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(222345312a^{14} - 3745440a^{15} + 43248a^{16} - 306a^{17} + a^{18} + 46620662575398912000b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(227646051134629478400ab - 84561518714872135680a^2b + 204544425045918744576a^3b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(-41476667627670994944a^4b + 22943568120596004864a^5b - 2670969522028953600a^6b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(653655295920635904a^7b - 46367643951078912a^8b + 6087033574989312a^9b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(-267452777940480a^{10}b + 20310289142784a^{11}b - 538587975744a^{12}b + 23985898944a^{13}b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 + \frac{262144(-350382240a^{14}b + 8727936a^{15}b - 53550a^{16}b + 630a^{17}b + 80177108784198451200b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
& + \frac{262144(84561518714872135680ab^2 + 376765373892274421760a^2b^2 - 37106107946844291072a^3b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(94661921845665792000a^4b^2 - 8250058245827543040a^5b^2 + 4834484937423912960a^6b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-286088788492683264a^7b^2 + 73488037086731520a^8b^2 - 2830362252157440a^9b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(385171067635200a^{10}b^2 - 9214702632576a^{11}b^2 + 714494944800a^{12}b^2 - 9600101280a^{13}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(427616640a^{14}b^2 - 2450448a^{15}b^2 + 58905a^{16}b^2 + 59690268905460203520b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(204544425045918744576ab^3 + 37106107946844291072a^2b^3 + 148152339170291613696a^3b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-5954608749608386560a^4b^3 + 14798435273785540608a^5b^3 - 655755966671984640a^6b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(380668112993642496a^7b^3 - 12411632232552960a^8b^3 + 3161240677647360a^9b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-67636609729920a^{10}b^3 + 9071028833664a^{11}b^3 - 112495612320a^{12}b^3 + 8492373120a^{13}b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-45912240a^{14}b^3 + 1947792a^{15}b^3 + 25941016178319163392b^4 + 41476667627670994944ab^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(94661921845665792000a^2b^4 + 5954608749608386560a^3b^4 + 21248405057917255680a^4b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-417333234097511424a^5b^4 + 979202192033640960a^6b^4 - 23674554904366080a^7b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(13190080234763520a^8b^4 - 239192223842880a^9b^4 + 58647685995360a^{10}b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(-654569667360a^{11}b^4 + 84112741440a^{12}b^4 - 423644760a^{13}b^4 + 30260340a^{14}b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(7448984828674965504b^5 + 22943568120596004864ab^5 + 8250058245827543040a^2b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(14798435273785540608a^3b^5 + 417333234097511424a^4b^5 + 1333407400586376192a^5b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-13876520995814400a^6b^5 + 30294926136059904a^7b^5 - 403001238644928a^8b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(211792515536448a^9b^5 - 1997908688160a^{10}b^5 + 463267099008a^{11}b^5 - 2102818536a^{12}b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(254186856a^{13}b^5 + 1511475811264036864b^6 + 2670969522028953600ab^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(4834484937423912960a^2b^6 + 655755966671984640a^3b^6 + 979202192033640960a^4b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(13876520995814400a^5b^6 + 39814926411617280a^6b^6 - 223040891969280a^7b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(449675387995680a^8b^6 - 3081641824800a^9b^6 + 1511564503680a^{10}b^6 - 5776974000a^{11}b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(1251677700a^{12}b^6 + 225747898745241600b^7 + 653655295920635904ab^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(286088788492683264a^2b^7 + 380668112993642496a^3b^7 + 23674554904366080a^4b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(30294926136059904a^5b^7 + 223040891969280a^6b^7 + 576376172064000a^7b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{262144(-1635980781600a^8b^7 + 3032869276800a^9b^7 - 8351853840a^{10}b^7 + 3796297200a^{11}b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(2546876958508646b^8 + 46367643951078912ab^8 + 73488037086731520a^2b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(12411632232552960a^3b^8 + 13190080234763520a^4b^8 + 403001238644928a^5b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(449675387995680a^6b^8 + 1635980781600a^7b^8 + 3817288490400a^8b^8 - 4298748300a^9b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(7307872110a^{10}b^8 + 2205749914587648b^9 + 6087033574989312ab^9 + 2830362252157440a^2b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(3161240677647360a^3b^9 + 239192223842880a^4b^9 + 211792515536448a^5b^9 + 3081641824800a^6b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(3032869276800a^7b^9 + 4298748300a^8b^9 + 9075135300a^9b^9 + 147948773077248b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(267452777940480ab^{10} + 385171067635200a^2b^{10} + 67636609729920a^3b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(58647685995360a^4b^{10} + 1997908688160a^5b^{10} + 1511564503680a^6b^{10} + 8351853840a^7b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(7307872110a^8b^{10} + 7705944829440b^{11} + 20310289142784ab^{11} + 9214702632576a^2b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(9071028833664a^3b^{11} + 654569667360a^4b^{11} + 463267099008a^5b^{11} + 5776974000a^6b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(3796297200a^7b^{11} + 310606256896b^{12} + 538587975744ab^{12} + 714494944800a^2b^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(112495612320a^3b^{12} + 84112741440a^4b^{12} + 2102818536a^5b^{12} + 1251677700a^6b^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(9588825792b^{13} + 23985898944ab^{13} + 9600101280a^2b^{13} + 8492373120a^3b^{13} + 423644760a^4b^{13})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(254186856a^5b^{13} + 222345312b^{14} + 350382240ab^{14} + 427616640a^2b^{14} + 45912240a^3b^{14})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(30260340a^4b^{14} + 3745440b^{15} + 8727936ab^{15} + 2450448a^2b^{15} + 1947792a^3b^{15} + 43248b^{16})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{262144(53550ab^{16} + 58905a^2b^{16} + 306b^{17} + 630ab^{17} + b^{18})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576b(48500033587878297600a + 11328021094402621440a^2 + 21140011005367025664a^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(2795023106067922944a^4 + 1574025548791873536a^5 + 128758187796725760a^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(33175766006734848a^7 + 1737630410723328a^8 + 240371614509312a^9 + 8050302965760a^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(638746221312a^{11} + 13154598912a^{12} + 603267168a^{13} + 6887040a^{14} + 172176a^{15} + 816a^{16})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(9a^{17} + 48500033587878297600b + 83577021037226754048a^2b + 8034085366268952576a^3b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(13105766738956189696a^4b + 918253385961963520a^5b + 483223358349369344a^6b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(23020491316207616a^7b + 5654596258046208a^8b + 177925617745920a^9b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(23543562530048a^{10}b + 465775063040a^{11}b + 35113632736a^{12}b + 392680960a^{13}b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(16797360a^{14}b + 79968a^{15}b + 1785a^{16}b - 11328021094402621440b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(83577021037226754048ab^2 + 33618491552919846912a^3b^2 + 1610580577687961600a^4b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576b(2326378986350354432a^5b^2 + 92960637851361280a^6b^2 + 45218555603989504a^7b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(1285000248576000a^8b^2 + 296035410612480a^9b^2 + 5498064732160a^{10}b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(683281861696a^{11}b^2 + 7361244800a^{12}b^2 + 516583760a^{13}b^2 + 2423520a^{14}b^2 + 94248a^{15}b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(21140011005367025664b^3 - 8034085366268952576ab^3 + 33618491552919846912a^2b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(4891283590711992320a^4b^3 + 128387637280415744a^5b^3 + 165510896176890880a^6b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(3878969853214720a^7b^3 + 1734099087578880a^8b^3 + 28871685427200a^9b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(6174643478080a^{10}b^3 + 62291568640a^{11}b^3 + 7178203760a^{12}b^3 + 32463200a^{13}b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(2086920a^{14}b^3 - 2795023106067922944b^4 + 13105766738956189696ab^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(-1610580577687961600a^2b^4 + 4891283590711992320a^3b^4 + 309949836535381504a^5b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(4639359573094400a^6b^4 + 5366111189204480a^7b^4 + 72693320663040a^8b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(29762423312160a^9b^4 + 267366915200a^{10}b^4 + 52694561360a^{11}b^4 + 222520480a^{12}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(23535820a^{13}b^4 + 1574025548791873536b^5 - 918253385961963520ab^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} + \\
& + \frac{1048576b(2326378986350354432a^2b^5 - 128387637280415744a^3b^5 + 309949836535381504a^4b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\}\right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576b(9319447558181376a^6b^5 + 78989552345088a^7b^5 + 82270476664992a^8b^5 + 594896924160a^9b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(222498227952a^{10}b^5 + 831884256a^{11}b^5 + 150201324a^{12}b^5 - 128758187796725760b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(483223358349369344ab^6 - 92960637851361280a^2b^6 + 165510896176890880a^3b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-4639359573094400a^4b^6 + 9319447558181376a^5b^6 + 135601809678720a^7b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(604067587200a^8b^6 + 567933181200a^9b^6 + 1694579040a^{10}b^6 + 577697400a^{11}b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(33175766006734848b^7 - 23020491316207616ab^7 + 45218555603989504a^2b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-3878969853214720a^3b^7 + 5366111189204480a^4b^7 - 78989552345088a^5b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(135601809678720a^6b^7 + 901508929200a^8b^7 + 1637618400a^9b^7 + 1391975640a^{10}b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-1737630410723328b^8 + 5654596258046208ab^8 - 1285000248576000a^2b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(1734099087578880a^3b^8 - 72693320663040a^4b^8 + 82270476664992a^5b^8 - 604067587200a^6b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(901508929200a^7b^8 + 2149374150a^9b^8 + 240371614509312b^9 - 177925617745920ab^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(296035410612480a^2b^9 - 28871685427200a^3b^9 + 29762423312160a^4b^9 - 594896924160a^5b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(567933181200a^6b^9 - 1637618400a^7b^9 + 2149374150a^8b^9 - 8050302965760b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576b(23543562530048ab^{10} - 5498064732160a^2b^{10} + 6174643478080a^3b^{10} - 267366915200a^4b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(222498227952a^5b^{10} - 1694579040a^6b^{10} + 1391975640a^7b^{10} + 638746221312b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-465775063040ab^{11} + 683281861696a^2b^{11} - 62291568640a^3b^{11} + 52694561360a^4b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-831884256a^5b^{11} + 577697400a^6b^{11} - 13154598912b^{12} + 35113632736ab^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-7361244800a^2b^{12} + 7178203760a^3b^{12} - 222520480a^4b^{12} + 150201324a^5b^{12} + 603267168b^{13})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-392680960ab^{13} + 516583760a^2b^{13} - 32463200a^3b^{13} + 23535820a^4b^{13} - 6887040b^{14})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(16797360ab^{14} - 2423520a^2b^{14} + 2086920a^3b^{14} + 172176b^{15} - 79968ab^{15} + 94248a^2b^{15})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576b(-816b^{16} + 1785ab^{16} + 9b^{17})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} \Bigg\} - \\
& - \frac{\Gamma(\frac{b+1}{2})}{\Gamma(\frac{a+1}{2})} \Bigg\{ \frac{1048576a(48500033587878297600a - 11328021094402621440a^2 + 21140011005367025664a^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-2795023106067922944a^4 + 1574025548791873536a^5 - 128758187796725760a^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(33175766006734848a^7 - 1737630410723328a^8 + 240371614509312a^9 - 8050302965760a^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(638746221312a^{11} - 13154598912a^{12} + 603267168a^{13} - 6887040a^{14} + 172176a^{15} - 816a^{16})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(9a^{17} + 48500033587878297600b + 83577021037226754048a^2b - 8034085366268952576a^3b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576a(13105766738956189696a^4b - 918253385961963520a^5b + 483223358349369344a^6b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-23020491316207616a^7b + 5654596258046208a^8b - 177925617745920a^9b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(23543562530048a^{10}b - 465775063040a^{11}b + 35113632736a^{12}b - 392680960a^{13}b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(16797360a^{14}b - 79968a^{15}b + 1785a^{16}b + 11328021094402621440b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(83577021037226754048ab^2 + 33618491552919846912a^3b^2 - 1610580577687961600a^4b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(2326378986350354432a^5b^2 - 92960637851361280a^6b^2 + 45218555603989504a^7b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-1285000248576000a^8b^2 + 296035410612480a^9b^2 - 5498064732160a^{10}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(683281861696a^{11}b^2 - 7361244800a^{12}b^2 + 516583760a^{13}b^2 - 2423520a^{14}b^2 + 94248a^{15}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(21140011005367025664b^3 + 8034085366268952576ab^3 + 33618491552919846912a^2b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(4891283590711992320a^4b^3 - 128387637280415744a^5b^3 + 165510896176890880a^6b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-3878969853214720a^7b^3 + 1734099087578880a^8b^3 - 28871685427200a^9b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(6174643478080a^{10}b^3 - 62291568640a^{11}b^3 + 7178203760a^{12}b^3 - 32463200a^{13}b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(2086920a^{14}b^3 + 2795023106067922944b^4 + 13105766738956189696ab^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576a(1610580577687961600a^2b^4 + 4891283590711992320a^3b^4 + 309949836535381504a^5b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-4639359573094400a^6b^4 + 5366111189204480a^7b^4 - 72693320663040a^8b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(29762423312160a^9b^4 - 267366915200a^{10}b^4 + 52694561360a^{11}b^4 - 222520480a^{12}b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(23535820a^{13}b^4 + 1574025548791873536b^5 + 918253385961963520ab^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(2326378986350354432a^2b^5 + 128387637280415744a^3b^5 + 309949836535381504a^4b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(9319447558181376a^6b^5 - 78989552345088a^7b^5 + 82270476664992a^8b^5 - 594896924160a^9b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(222498227952a^{10}b^5 - 831884256a^{11}b^5 + 150201324a^{12}b^5 + 128758187796725760b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(483223358349369344ab^6 + 92960637851361280a^2b^6 + 165510896176890880a^3b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(4639359573094400a^4b^6 + 9319447558181376a^5b^6 + 135601809678720a^7b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(-604067587200a^8b^6 + 567933181200a^9b^6 - 1694579040a^{10}b^6 + 577697400a^{11}b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(33175766006734848b^7 + 23020491316207616ab^7 + 45218555603989504a^2b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(3878969853214720a^3b^7 + 5366111189204480a^4b^7 + 78989552345088a^5b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(135601809678720a^6b^7 + 901508929200a^8b^7 - 1637618400a^9b^7 + 1391975640a^{10}b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576a(1737630410723328b^8 + 5654596258046208ab^8 + 1285000248576000a^2b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(1734099087578880a^3b^8 + 72693320663040a^4b^8 + 82270476664992a^5b^8 + 604067587200a^6b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(901508929200a^7b^8 + 2149374150a^9b^8 + 240371614509312b^9 + 177925617745920ab^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(296035410612480a^2b^9 + 28871685427200a^3b^9 + 29762423312160a^4b^9 + 594896924160a^5b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(567933181200a^6b^9 + 1637618400a^7b^9 + 2149374150a^8b^9 + 8050302965760b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(23543562530048ab^{10} + 5498064732160a^2b^{10} + 6174643478080a^3b^{10} + 267366915200a^4b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(222498227952a^5b^{10} + 1694579040a^6b^{10} + 1391975640a^7b^{10} + 638746221312b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(465775063040ab^{11} + 683281861696a^2b^{11} + 62291568640a^3b^{11} + 52694561360a^4b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(831884256a^5b^{11} + 577697400a^6b^{11} + 13154598912b^{12} + 35113632736ab^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(7361244800a^2b^{12} + 7178203760a^3b^{12} + 222520480a^4b^{12} + 150201324a^5b^{12} + 603267168b^{13})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(392680960ab^{13} + 516583760a^2b^{13} + 32463200a^3b^{13} + 23535820a^4b^{13} + 6887040b^{14})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(16797360ab^{14} + 2423520a^2b^{14} + 2086920a^3b^{14} + 172176b^{15} + 79968ab^{15} + 94248a^2b^{15})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576a(816b^{16} + 1785ab^{16} + 9b^{17})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(46620662575398912000a + 80177108784198451200a^2 + 59690268905460203520a^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(25941016178319163392a^4 + 7448984828674965504a^5 + 1511475811264036864a^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(225747898745241600a^7 + 25468769585086464a^8 + 2205749914587648a^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(147948773077248a^{10} + 7705944829440a^{11} + 310606256896a^{12} + 9588825792a^{13})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(222345312a^{14} + 3745440a^{15} + 43248a^{16} + 306a^{17} + a^{18} - 46620662575398912000b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(227646051134629478400ab + 84561518714872135680a^2b + 204544425045918744576a^3b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(41476667627670994944a^4b + 22943568120596004864a^5b + 2670969522028953600a^6b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(653655295920635904a^7b + 46367643951078912a^8b + 6087033574989312a^9b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(267452777940480a^{10}b + 20310289142784a^{11}b + 538587975744a^{12}b + 23985898944a^{13}b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(350382240a^{14}b + 8727936a^{15}b + 53550a^{16}b + 630a^{17}b + 80177108784198451200b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-84561518714872135680ab^2 + 376765373892274421760a^2b^2 + 37106107946844291072a^3b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(94661921845665792000a^4b^2 + 8250058245827543040a^5b^2 + 4834484937423912960a^6b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(286088788492683264a^7b^2 + 73488037086731520a^8b^2 + 2830362252157440a^9b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(385171067635200a^{10}b^2 + 9214702632576a^{11}b^2 + 714494944800a^{12}b^2 + 9600101280a^{13}b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(427616640a^{14}b^2 + 2450448a^{15}b^2 + 58905a^{16}b^2 - 59690268905460203520b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(204544425045918744576ab^3 - 37106107946844291072a^2b^3 + 148152339170291613696a^3b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(5954608749608386560a^4b^3 + 14798435273785540608a^5b^3 + 655755966671984640a^6b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(380668112993642496a^7b^3 + 12411632232552960a^8b^3 + 3161240677647360a^9b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(67636609729920a^{10}b^3 + 9071028833664a^{11}b^3 + 112495612320a^{12}b^3 + 8492373120a^{13}b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(45912240a^{14}b^3 + 1947792a^{15}b^3 + 25941016178319163392b^4 - 41476667627670994944ab^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(94661921845665792000a^2b^4 - 5954608749608386560a^3b^4 + 21248405057917255680a^4b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(417333234097511424a^5b^4 + 979202192033640960a^6b^4 + 23674554904366080a^7b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(13190080234763520a^8b^4 + 239192223842880a^9b^4 + 58647685995360a^{10}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(654569667360a^{11}b^4 + 84112741440a^{12}b^4 + 423644760a^{13}b^4 + 30260340a^{14}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-7448984828674965504b^5 + 22943568120596004864ab^5 - 8250058245827543040a^2b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(14798435273785540608a^3b^5 - 417333234097511424a^4b^5 + 1333407400586376192a^5b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(13876520995814400a^6b^5 + 30294926136059904a^7b^5 + 403001238644928a^8b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(211792515536448a^9b^5 + 1997908688160a^{10}b^5 + 463267099008a^{11}b^5 + 2102818536a^{12}b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(254186856a^{13}b^5 + 1511475811264036864b^6 - 2670969522028953600ab^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(4834484937423912960a^2b^6 - 655755966671984640a^3b^6 + 979202192033640960a^4b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-13876520995814400a^5b^6 + 39814926411617280a^6b^6 + 223040891969280a^7b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(449675387995680a^8b^6 + 3081641824800a^9b^6 + 1511564503680a^{10}b^6 + 5776974000a^{11}b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(1251677700a^{12}b^6 - 225747898745241600b^7 + 653655295920635904ab^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-286088788492683264a^2b^7 + 380668112993642496a^3b^7 - 23674554904366080a^4b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(30294926136059904a^5b^7 - 223040891969280a^6b^7 + 576376172064000a^7b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(1635980781600a^8b^7 + 3032869276800a^9b^7 + 8351853840a^{10}b^7 + 3796297200a^{11}b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(25468769585086464b^8 - 46367643951078912ab^8 + 73488037086731520a^2b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-12411632232552960a^3b^8 + 13190080234763520a^4b^8 - 403001238644928a^5b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(449675387995680a^6b^8 - 1635980781600a^7b^8 + 3817288490400a^8b^8 + 4298748300a^9b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{262144(7307872110a^{10}b^8 - 2205749914587648b^9 + 6087033574989312ab^9 - 2830362252157440a^2b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(3161240677647360a^3b^9 - 239192223842880a^4b^9 + 211792515536448a^5b^9 - 3081641824800a^6b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(3032869276800a^7b^9 - 4298748300a^8b^9 + 9075135300a^9b^9 + 147948773077248b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-267452777940480ab^{10} + 385171067635200a^2b^{10} - 67636609729920a^3b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(58647685995360a^4b^{10} - 1997908688160a^5b^{10} + 1511564503680a^6b^{10} - 8351853840a^7b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(7307872110a^8b^{10} - 7705944829440b^{11} + 20310289142784ab^{11} - 9214702632576a^2b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(9071028833664a^3b^{11} - 654569667360a^4b^{11} + 463267099008a^5b^{11} - 5776974000a^6b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(3796297200a^7b^{11} + 310606256896b^{12} - 538587975744ab^{12} + 714494944800a^2b^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-112495612320a^3b^{12} + 84112741440a^4b^{12} - 2102818536a^5b^{12} + 1251677700a^6b^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-9588825792b^{13} + 23985898944ab^{13} - 9600101280a^2b^{13} + 8492373120a^3b^{13} - 423644760a^4b^{13})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(254186856a^5b^{13} + 222345312b^{14} - 350382240ab^{14} + 427616640a^2b^{14} - 45912240a^3b^{14})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(30260340a^4b^{14} - 3745440b^{15} + 8727936ab^{15} - 2450448a^2b^{15} + 1947792a^3b^{15} + 43248b^{16})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{262144(-53550ab^{16} + 58905a^2b^{16} - 306b^{17} + 630ab^{17} + b^{18})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} \Bigg\} \quad (6)
\end{aligned}$$

III. DERIVATION OF THE SUMMATION FORMULA

Replacing c with $\frac{a+b+38}{2}$ and z with $\frac{1}{2}$ in equation (2), and involving derived from reference(6), we get

$$\begin{aligned}
 L.H.S = & a \frac{2^b \Gamma(\frac{a+b+38}{2})}{\Gamma(b)} \left[\frac{\Gamma(\frac{b}{2})}{\Gamma(\frac{a+2}{2})} \left\{ \frac{131072(-46620662575398912000a + 80177108784198451200a^2) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} \right. \right. \\
 & + \frac{131072(-59690268905460203520a^3 + 25941016178319163392a^4 - 7448984828674965504a^5) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(1511475811264036864a^6 - 225747898745241600a^7 + 25468769585086464a^8) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(-2205749914587648a^9 + 147948773077248a^{10} - 7705944829440a^{11} + 310606256896a^{12}) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(-9588825792a^{13} + 222345312a^{14} - 3745440a^{15} + 43248a^{16} - 306a^{17} + a^{18}) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(46620662575398912000b + 227646051134629478400ab - 84561518714872135680a^2b) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(204544425045918744576a^3b - 41476667627670994944a^4b + 22943568120596004864a^5b) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(-2670969522028953600a^6b + 653655295920635904a^7b - 46367643951078912a^8b) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(6087033574989312a^9b - 267452777940480a^{10}b + 20310289142784a^{11}b - 538587975744a^{12}b) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(23985898944a^{13}b - 350382240a^{14}b + 8727936a^{15}b - 53550a^{16}b + 630a^{17}b) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
 & + \frac{131072(80177108784198451200b^2 + 84561518714872135680ab^2 + 376765373892274421760a^2b^2) +}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
& + \frac{131072(-37106107946844291072a^3b^2 + 94661921845665792000a^4b^2 - 8250058245827543040a^5b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(4834484937423912960a^6b^2 - 286088788492683264a^7b^2 + 73488037086731520a^8b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(-2830362252157440a^9b^2 + 385171067635200a^{10}b^2 - 9214702632576a^{11}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(714494944800a^{12}b^2 - 9600101280a^{13}b^2 + 427616640a^{14}b^2 - 2450448a^{15}b^2 + 58905a^{16}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(59690268905460203520b^3 + 204544425045918744576ab^3 + 37106107946844291072a^2b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(148152339170291613696a^3b^3 - 5954608749608386560a^4b^3 + 14798435273785540608a^5b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(-655755966671984640a^6b^3 + 380668112993642496a^7b^3 - 12411632232552960a^8b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(3161240677647360a^9b^3 - 67636609729920a^{10}b^3 + 9071028833664a^{11}b^3 - 112495612320a^{12}b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(8492373120a^{13}b^3 - 45912240a^{14}b^3 + 1947792a^{15}b^3 + 25941016178319163392b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(41476667627670994944ab^4 + 94661921845665792000a^2b^4 + 5954608749608386560a^3b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(21248405057917255680a^4b^4 - 41733234097511424a^5b^4 + 979202192033640960a^6b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(-23674554904366080a^7b^4 + 13190080234763520a^8b^4 - 239192223842880a^9b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(58647685995360a^{10}b^4 - 654569667360a^{11}b^4 + 84112741440a^{12}b^4 - 423644760a^{13}b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(30260340a^{14}b^4 + 7448984828674965504b^5 + 22943568120596004864ab^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(8250058245827543040a^2b^5 + 14798435273785540608a^3b^5 + 417333234097511424a^4b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(1333407400586376192a^5b^5 - 13876520995814400a^6b^5 + 30294926136059904a^7b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(-403001238644928a^8b^5 + 211792515536448a^9b^5 - 1997908688160a^{10}b^5 + 463267099008a^{11}b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(-2102818536a^{12}b^5 + 254186856a^{13}b^5 + 1511475811264036864b^6 + 2670969522028953600ab^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(4834484937423912960a^2b^6 + 655755966671984640a^3b^6 + 979202192033640960a^4b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(13876520995814400a^5b^6 + 39814926411617280a^6b^6 - 223040891969280a^7b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(449675387995680a^8b^6 - 3081641824800a^9b^6 + 1511564503680a^{10}b^6 - 5776974000a^{11}b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(1251677700a^{12}b^6 + 225747898745241600b^7 + 653655295920635904ab^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(286088788492683264a^2b^7 + 380668112993642496a^3b^7 + 23674554904366080a^4b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(30294926136059904a^5b^7 + 223040891969280a^6b^7 + 576376172064000a^7b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(-1635980781600a^8b^7 + 3032869276800a^9b^7 - 8351853840a^{10}b^7 + 3796297200a^{11}b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(25468769585086464b^8 + 46367643951078912ab^8 + 73488037086731520a^2b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(12411632232552960a^3b^8 + 13190080234763520a^4b^8 + 403001238644928a^5b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(449675387995680a^6b^8 + 1635980781600a^7b^8 + 3817288490400a^8b^8 - 4298748300a^9b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(7307872110a^{10}b^8 + 2205749914587648b^9 + 6087033574989312ab^9 + 2830362252157440a^2b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(3161240677647360a^3b^9 + 239192223842880a^4b^9 + 211792515536448a^5b^9 + 3081641824800a^6b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(3032869276800a^7b^9 + 4298748300a^8b^9 + 9075135300a^9b^9 + 147948773077248b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(267452777940480ab^{10} + 385171067635200a^2b^{10} + 67636609729920a^3b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(58647685995360a^4b^{10} + 1997908688160a^5b^{10} + 1511564503680a^6b^{10} + 8351853840a^7b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(7307872110a^8b^{10} + 7705944829440b^{11} + 20310289142784ab^{11} + 9214702632576a^2b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(9071028833664a^3b^{11} + 654569667360a^4b^{11} + 463267099008a^5b^{11} + 5776974000a^6b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(3796297200a^7b^{11} + 310606256896b^{12} + 538587975744ab^{12} + 714494944800a^2b^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(112495612320a^3b^{12} + 84112741440a^4b^{12} + 2102818536a^5b^{12} + 1251677700a^6b^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(9588825792b^{13} + 23985898944ab^{13} + 9600101280a^2b^{13} + 8492373120a^3b^{13} + 423644760a^4b^{13})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{131072(254186856a^5b^{13} + 222345312b^{14} + 350382240ab^{14} + 427616640a^2b^{14} + 45912240a^3b^{14})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(30260340a^4b^{14} + 3745440b^{15} + 8727936ab^{15} + 2450448a^2b^{15} + 1947792a^3b^{15} + 43248b^{16})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{131072(53550ab^{16} + 58905a^2b^{16} + 306b^{17} + 630ab^{17} + b^{18})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} \Bigg\} - \\
& - \frac{\Gamma(\frac{b+1}{2})}{\Gamma(\frac{a+1}{2})} \Bigg\{ \frac{1048576(48500033587878297600a - 11328021094402621440a^2 + 21140011005367025664a^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(-2795023106067922944a^4 + 1574025548791873536a^5 - 128758187796725760a^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(33175766006734848a^7 - 1737630410723328a^8 + 240371614509312a^9 - 8050302965760a^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(638746221312a^{11} - 13154598912a^{12} + 603267168a^{13} - 6887040a^{14} + 172176a^{15} - 816a^{16})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(9a^{17} + 48500033587878297600b + 83577021037226754048a^2b - 8034085366268952576a^3b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(13105766738956189696a^4b - 918253385961963520a^5b + 483223358349369344a^6b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(-23020491316207616a^7b + 5654596258046208a^8b - 177925617745920a^9b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(23543562530048a^{10}b - 465775063040a^{11}b + 35113632736a^{12}b - 392680960a^{13}b)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(16797360a^{14}b - 79968a^{15}b + 1785a^{16}b + 11328021094402621440b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(83577021037226754048ab^2 + 33618491552919846912a^3b^2 - 1610580577687961600a^4b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(2326378986350354432a^5b^2 - 92960637851361280a^6b^2 + 45218555603989504a^7b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(-1285000248576000a^8b^2 + 296035410612480a^9b^2 - 5498064732160a^{10}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(683281861696a^{11}b^2 - 7361244800a^{12}b^2 + 516583760a^{13}b^2 - 2423520a^{14}b^2 + 94248a^{15}b^2)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(21140011005367025664b^3 + 8034085366268952576ab^3 + 33618491552919846912a^2b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(4891283590711992320a^4b^3 - 128387637280415744a^5b^3 + 165510896176890880a^6b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(-3878969853214720a^7b^3 + 1734099087578880a^8b^3 - 28871685427200a^9b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(6174643478080a^{10}b^3 - 62291568640a^{11}b^3 + 7178203760a^{12}b^3 - 32463200a^{13}b^3)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(2086920a^{14}b^3 + 2795023106067922944b^4 + 13105766738956189696ab^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(1610580577687961600a^2b^4 + 4891283590711992320a^3b^4 + 309949836535381504a^5b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(-4639359573094400a^6b^4 + 5366111189204480a^7b^4 - 72693320663040a^8b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(29762423312160a^9b^4 - 267366915200a^{10}b^4 + 52694561360a^{11}b^4 - 222520480a^{12}b^4)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(23535820a^{13}b^4 + 1574025548791873536b^5 + 918253385961963520ab^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(2326378986350354432a^2b^5 + 128387637280415744a^3b^5 + 309949836535381504a^4b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(9319447558181376a^6b^5 - 78989552345088a^7b^5 + 82270476664992a^8b^5 - 594896924160a^9b^5)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(222498227952a^{10}b^5 - 831884256a^{11}b^5 + 150201324a^{12}b^5 + 128758187796725760b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(483223358349369344ab^6 + 92960637851361280a^2b^6 + 165510896176890880a^3b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(4639359573094400a^4b^6 + 9319447558181376a^5b^6 + 135601809678720a^7b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(-604067587200a^8b^6 + 567933181200a^9b^6 - 1694579040a^{10}b^6 + 577697400a^{11}b^6)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(33175766006734848b^7 + 23020491316207616ab^7 + 45218555603989504a^2b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(3878969853214720a^3b^7 + 5366111189204480a^4b^7 + 78989552345088a^5b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(135601809678720a^6b^7 + 901508929200a^8b^7 - 1637618400a^9b^7 + 1391975640a^{10}b^7)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(1737630410723328b^8 + 5654596258046208ab^8 + 1285000248576000a^2b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(1734099087578880a^3b^8 + 72693320663040a^4b^8 + 82270476664992a^5b^8 + 604067587200a^6b^8)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(901508929200a^7b^8 + 2149374150a^9b^8 + 240371614509312b^9 + 177925617745920ab^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(296035410612480a^2b^9 + 28871685427200a^3b^9 + 29762423312160a^4b^9 + 594896924160a^5b^9)}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(567933181200a^6b^9 + 1637618400a^7b^9 + 2149374150a^8b^9 + 8050302965760b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} + \\
& + \frac{1048576(23543562530048ab^{10} + 5498064732160a^2b^{10} + 6174643478080a^3b^{10} + 267366915200a^4b^{10})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\}\right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\}\right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(222498227952a^5b^{10} + 1694579040a^6b^{10} + 1391975640a^7b^{10} + 638746221312b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(465775063040ab^{11} + 683281861696a^2b^{11} + 62291568640a^3b^{11} + 52694561360a^4b^{11})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(831884256a^5b^{11} + 577697400a^6b^{11} + 13154598912b^{12} + 35113632736ab^{12} + 7361244800a^2b^{12})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(7178203760a^3b^{12} + 222520480a^4b^{12} + 150201324a^5b^{12} + 603267168b^{13} + 392680960ab^{13})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(516583760a^2b^{13} + 32463200a^3b^{13} + 23535820a^4b^{13} + 6887040b^{14} + 16797360ab^{14})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(2423520a^2b^{14} + 2086920a^3b^{14} + 172176b^{15} + 79968ab^{15} + 94248a^2b^{15} + 816b^{16})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} + \\
& + \frac{1048576(1785ab^{16} + 9b^{17})}{\left[\prod_{\delta=0}^{17} \{a-b-2\delta\} \right] \left[\prod_{\eta=1}^{18} \{a-b+2\eta\} \right]} \Bigg\} - \\
& - \frac{2^{b+1} \Gamma(\frac{a+b+38}{2})}{\Gamma(b)} \left[\frac{\Gamma(\frac{b+1}{2})}{\Gamma(\frac{a+1}{2})} \left\{ \frac{131072(46620662575398912000a + 80177108784198451200a^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \right. \right. \\
& + \frac{131072(59690268905460203520a^3 + 25941016178319163392a^4 + 7448984828674965504a^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(1511475811264036864a^6 + 225747898745241600a^7 + 25468769585086464a^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(2205749914587648a^9 + 147948773077248a^{10} + 7705944829440a^{11} + 310606256896a^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(9588825792a^{13} + 222345312a^{14} + 3745440a^{15} + 43248a^{16} + 306a^{17} + a^{18})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-46620662575398912000b + 227646051134629478400ab + 84561518714872135680a^2b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(204544425045918744576a^3b + 41476667627670994944a^4b + 22943568120596004864a^5b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(2670969522028953600a^6b + 653655295920635904a^7b + 46367643951078912a^8b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(6087033574989312a^9b + 267452777940480a^{10}b + 20310289142784a^{11}b + 538587975744a^{12}b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(23985898944a^{13}b + 350382240a^{14}b + 8727936a^{15}b + 53550a^{16}b + 630a^{17}b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(80177108784198451200b^2 - 84561518714872135680ab^2 + 376765373892274421760a^2b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(37106107946844291072a^3b^2 + 94661921845665792000a^4b^2 + 8250058245827543040a^5b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(4834484937423912960a^6b^2 + 286088788492683264a^7b^2 + 73488037086731520a^8b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(2830362252157440a^9b^2 + 385171067635200a^{10}b^2 + 9214702632576a^{11}b^2 + 714494944800a^{12}b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(9600101280a^{13}b^2 + 427616640a^{14}b^2 + 2450448a^{15}b^2 + 58905a^{16}b^2 - 59690268905460203520b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(204544425045918744576ab^3 - 37106107946844291072a^2b^3 + 148152339170291613696a^3b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(5954608749608386560a^4b^3 + 14798435273785540608a^5b^3 + 655755966671984640a^6b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(380668112993642496a^7b^3 + 12411632232552960a^8b^3 + 3161240677647360a^9b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(67636609729920a^{10}b^3 + 9071028833664a^{11}b^3 + 112495612320a^{12}b^3 + 8492373120a^{13}b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(45912240a^{14}b^3 + 1947792a^{15}b^3 + 25941016178319163392b^4 - 41476667627670994944ab^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(94661921845665792000a^2b^4 - 5954608749608386560a^3b^4 + 21248405057917255680a^4b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(417333234097511424a^5b^4 + 979202192033640960a^6b^4 + 23674554904366080a^7b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(13190080234763520a^8b^4 + 239192223842880a^9b^4 + 58647685995360a^{10}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(654569667360a^{11}b^4 + 84112741440a^{12}b^4 + 423644760a^{13}b^4 + 30260340a^{14}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-7448984828674965504b^5 + 22943568120596004864ab^5 - 8250058245827543040a^2b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(14798435273785540608a^3b^5 - 417333234097511424a^4b^5 + 1333407400586376192a^5b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(13876520995814400a^6b^5 + 30294926136059904a^7b^5 + 403001238644928a^8b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(211792515536448a^9b^5 + 1997908688160a^{10}b^5 + 463267099008a^{11}b^5 + 2102818536a^{12}b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(254186856a^{13}b^5 + 1511475811264036864b^6 - 2670969522028953600ab^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(4834484937423912960a^2b^6 - 655755966671984640a^3b^6 + 979202192033640960a^4b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-13876520995814400a^5b^6 + 39814926411617280a^6b^6 + 223040891969280a^7b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(449675387995680a^8b^6 + 3081641824800a^9b^6 + 1511564503680a^{10}b^6 + 5776974000a^{11}b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(1251677700a^{12}b^6 - 225747898745241600b^7 + 653655295920635904ab^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-286088788492683264a^2b^7 + 380668112993642496a^3b^7 - 23674554904366080a^4b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(30294926136059904a^5b^7 - 223040891969280a^6b^7 + 576376172064000a^7b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(1635980781600a^8b^7 + 3032869276800a^9b^7 + 8351853840a^{10}b^7 + 3796297200a^{11}b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(25468769585086464b^8 - 46367643951078912ab^8 + 73488037086731520a^2b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-12411632232552960a^3b^8 + 13190080234763520a^4b^8 - 403001238644928a^5b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(449675387995680a^6b^8 - 1635980781600a^7b^8 + 3817288490400a^8b^8 + 4298748300a^9b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(7307872110a^{10}b^8 - 2205749914587648b^9 + 6087033574989312ab^9 - 2830362252157440a^2b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(3161240677647360a^3b^9 - 239192223842880a^4b^9 + 211792515536448a^5b^9 - 3081641824800a^6b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(3032869276800a^7b^9 - 4298748300a^8b^9 + 9075135300a^9b^9 + 147948773077248b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-267452777940480ab^{10} + 385171067635200a^2b^{10} - 67636609729920a^3b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(58647685995360a^4b^{10} - 1997908688160a^5b^{10} + 1511564503680a^6b^{10} - 8351853840a^7b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(7307872110a^8b^{10} - 7705944829440b^{11} + 20310289142784ab^{11} - 9214702632576a^2b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{131072(9071028833664a^3b^{11} - 654569667360a^4b^{11} + 463267099008a^5b^{11} - 5776974000a^6b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(3796297200a^7b^{11} + 310606256896b^{12} - 538587975744ab^{12} + 714494944800a^2b^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-112495612320a^3b^{12} + 84112741440a^4b^{12} - 2102818536a^5b^{12} + 1251677700a^6b^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-9588825792b^{13} + 23985898944ab^{13} - 9600101280a^2b^{13} + 8492373120a^3b^{13} - 423644760a^4b^{13})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(254186856a^5b^{13} + 222345312b^{14} - 350382240ab^{14} + 427616640a^2b^{14} - 45912240a^3b^{14})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(30260340a^4b^{14} - 3745440b^{15} + 8727936ab^{15} - 2450448a^2b^{15} + 1947792a^3b^{15} + 43248b^{16})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{131072(-53550ab^{16} + 58905a^2b^{16} - 306b^{17} + 630ab^{17} + b^{18})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} \Bigg\} - \\
& - \frac{\Gamma(\frac{b+2}{2})}{\Gamma(\frac{a}{2})} \Bigg\{ \frac{1048576(48500033587878297600a + 11328021094402621440a^2 + 21140011005367025664a^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(2795023106067922944a^4 + 1574025548791873536a^5 + 128758187796725760a^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(33175766006734848a^7 + 1737630410723328a^8 + 240371614509312a^9 + 8050302965760a^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(638746221312a^{11} + 13154598912a^{12} + 603267168a^{13} + 6887040a^{14} + 172176a^{15} + 816a^{16})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(9a^{17} + 48500033587878297600b + 83577021037226754048a^2b + 8034085366268952576a^3b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(13105766738956189696a^4b + 918253385961963520a^5b + 483223358349369344a^6b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(23020491316207616a^7b + 5654596258046208a^8b + 177925617745920a^9b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(23543562530048a^{10}b + 465775063040a^{11}b + 35113632736a^{12}b + 392680960a^{13}b)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(16797360a^{14}b + 79968a^{15}b + 1785a^{16}b - 11328021094402621440b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(83577021037226754048ab^2 + 33618491552919846912a^3b^2 + 1610580577687961600a^4b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(2326378986350354432a^5b^2 + 92960637851361280a^6b^2 + 45218555603989504a^7b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(1285000248576000a^8b^2 + 296035410612480a^9b^2 + 5498064732160a^{10}b^2 + 683281861696a^{11}b^2)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(7361244800a^{12}b^2 + 516583760a^{13}b^2 + 2423520a^{14}b^2 + 94248a^{15}b^2 + 21140011005367025664b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-8034085366268952576ab^3 + 33618491552919846912a^2b^3 + 4891283590711992320a^4b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(128387637280415744a^5b^3 + 165510896176890880a^6b^3 + 3878969853214720a^7b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(1734099087578880a^8b^3 + 28871685427200a^9b^3 + 6174643478080a^{10}b^3 + 62291568640a^{11}b^3)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(7178203760a^{12}b^3 + 32463200a^{13}b^3 + 2086920a^{14}b^3 - 2795023106067922944b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(13105766738956189696ab^4 - 1610580577687961600a^2b^4 + 4891283590711992320a^3b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(309949836535381504a^5b^4 + 4639359573094400a^6b^4 + 5366111189204480a^7b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(72693320663040a^8b^4 + 29762423312160a^9b^4 + 267366915200a^{10}b^4 + 52694561360a^{11}b^4)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(222520480a^{12}b^4 + 23535820a^{13}b^4 + 1574025548791873536b^5 - 918253385961963520ab^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(2326378986350354432a^2b^5 - 128387637280415744a^3b^5 + 309949836535381504a^4b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(9319447558181376a^6b^5 + 78989552345088a^7b^5 + 82270476664992a^8b^5 + 594896924160a^9b^5)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(222498227952a^{10}b^5 + 831884256a^{11}b^5 + 150201324a^{12}b^5 - 128758187796725760b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(483223358349369344ab^6 - 92960637851361280a^2b^6 + 165510896176890880a^3b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-4639359573094400a^4b^6 + 9319447558181376a^5b^6 + 135601809678720a^7b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(604067587200a^8b^6 + 567933181200a^9b^6 + 1694579040a^{10}b^6 + 577697400a^{11}b^6)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(33175766006734848b^7 - 23020491316207616ab^7 + 45218555603989504a^2b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-3878969853214720a^3b^7 + 5366111189204480a^4b^7 - 78989552345088a^5b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(135601809678720a^6b^7 + 901508929200a^8b^7 + 1637618400a^9b^7 + 1391975640a^{10}b^7)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-1737630410723328b^8 + 5654596258046208ab^8 - 1285000248576000a^2b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(1734099087578880a^3b^8 - 72693320663040a^4b^8 + 82270476664992a^5b^8 - 604067587200a^6b^8)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} +
\end{aligned}$$

$$\begin{aligned}
& + \frac{1048576(901508929200a^7b^8 + 2149374150a^9b^8 + 240371614509312b^9 - 177925617745920ab^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(296035410612480a^2b^9 - 28871685427200a^3b^9 + 29762423312160a^4b^9 - 594896924160a^5b^9)}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(567933181200a^6b^9 - 1637618400a^7b^9 + 2149374150a^8b^9 - 8050302965760b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(23543562530048ab^{10} - 5498064732160a^2b^{10} + 6174643478080a^3b^{10} - 267366915200a^4b^{10})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(222498227952a^5b^{10} - 1694579040a^6b^{10} + 1391975640a^7b^{10} + 638746221312b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-465775063040ab^{11} + 683281861696a^2b^{11} - 62291568640a^3b^{11} + 52694561360a^4b^{11})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-831884256a^5b^{11} + 577697400a^6b^{11} - 13154598912b^{12} + 35113632736ab^{12})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-7361244800a^2b^{12} + 7178203760a^3b^{12} - 222520480a^4b^{12} + 150201324a^5b^{12} + 603267168b^{13})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-392680960ab^{13} + 516583760a^2b^{13} - 32463200a^3b^{13} + 23535820a^4b^{13} - 6887040b^{14})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(16797360ab^{14} - 2423520a^2b^{14} + 2086920a^3b^{14} + 172176b^{15} - 79968ab^{15} + 94248a^2b^{15})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} + \\
& + \frac{1048576(-816b^{16} + 1785ab^{16} + 9b^{17})}{\left[\prod_{\sigma=0}^{18} \{a-b-2\sigma\} \right] \left[\prod_{\varsigma=1}^{17} \{a-b+2\varsigma\} \right]} \Bigg\}
\end{aligned}$$

On simplification the result (8) is established.

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