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Construction of a Summation Formula Interlaced With Recurrence Relation and Hypergeometric Function

By Salahuddin, M. P. Chaudhary

College of Engineering, Bahadurgarh, Haryana, India

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Construction of a Summation Formula Interlaced With Recurrence Relation and Hypergeometric Function

Salahuddin^α, M. P. Chaudhary^Ω

Abstract - In this paper we construct a summation formula, interlaced with recurrence relation and hypergeometric function.

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I. INTRODUCTION

Generalized Gaussian hypergeometric function of one variable is defined as

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

or

$${}_A F_B \left[\begin{matrix} (a_A) ; \\ (b_B) ; \end{matrix} z \right] \equiv {}_A F_B \left[\begin{matrix} (a_j)_{j=1}^A ; \\ (b_j)_{j=1}^B ; \end{matrix} z \right] = \sum_{k=0}^{\infty} \frac{((a_A))_k z^k}{((b_B))_k k!} \quad (1.1)$$

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 given by the following expression

$$(a-b) {}_2 F_1 \left[\begin{matrix} a, b ; \\ c ; \end{matrix} z \right] = a {}_2 F_1 \left[\begin{matrix} a+1, b ; \\ c ; \end{matrix} z \right] - b {}_2 F_1 \left[\begin{matrix} a, b+1 ; \\ c ; \end{matrix} z \right] \quad (1.2)$$

Gauss second summation theorem [Prud., 491(7.3.7.5)]

$${}_2 F_1 \left[\begin{matrix} a, b ; \\ \frac{a+b+1}{2} ; \end{matrix} \frac{1}{2} \right] = \frac{\Gamma(\frac{a+b+1}{2}) \Gamma(\frac{1}{2})}{\Gamma(\frac{a+1}{2}) \Gamma(\frac{b+1}{2})} \quad (1.3)$$

$$= \frac{2^{(b-1)} \Gamma(\frac{b}{2}) \Gamma(\frac{a+b+1}{2})}{\Gamma(b) \Gamma(\frac{a+1}{2})} \quad (1.4)$$

Recurrence relation is defined as following

$$\Gamma(\zeta + 1) = \zeta \Gamma(\zeta) \quad (1.5)$$

II. MAIN RESULT OF THE SUMMATION FORMULA

$${}_2 F_1 \left[\begin{matrix} a, b ; \\ \frac{a+b+43}{2} ; \end{matrix} \frac{1}{2} \right] = \frac{2^b \Gamma(\frac{a+b+43}{2})}{(a-b) \Gamma(b)} \times$$

Author^α : P.D.M. College of Engineering, Bahadurgarh, Haryana, India. E-mail : sludn@yahoo.com

Author^Ω : Centre for Mathematical Sciences, Arunapuram P.O., Pala-686574, Kerala, India. E-mail : mpchaudhary_2000@yahoo.com

$$\begin{aligned}
 & \times \left[\frac{\Gamma(\frac{b}{2})}{\Gamma(\frac{a+1}{2})} \left\{ \frac{1048576a(319830986772877770815625 - 793076329745158961502000a)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \right. \\
 & + \frac{1048576a(787995759739909824183150a^2 - 440604294676004639627280a^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(159940198124792648875341a^4 - 40757108535689214225600a^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(7652296057856603272680a^6 - 1092926016966998436160a^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(121344378918220620226a^8 - 10627666045365252000a^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(741138328282003860a^{10} - 41357055277206240a^{11} + 1848366089479026a^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-65952604619200a^{13} + 1864098465640a^{14} - 41162809920a^{15})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(694529781a^{16} - 8641200a^{17} + 74670a^{18} - 400a^{19} + a^{20})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-298677783336611201523000b + 2892376317865531121862300ab)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-1239559320811518856051560a^2b + 1434781934695498765973076a^3b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-287187680273501906329824a^4b + 124624420367497369988976a^5b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-14488222605675140113440a^6b + 3195527370095701704592a^7b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-234077921187817903248a^8b + 29922450377139075912a^9b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576a(-1424245102551276720a^{10}b + 112269054410294808a^{11}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-3464317208238432a^{12}b + 172047191152048a^{13}b - 3314002480800a^{14}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(102253546704a^{15}b - 1113365496a^{16}b + 20032764a^{17}b - 93480a^{18}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(820a^{19}b + 1705346918813318904159750b^2 - 373453489652412879057600ab^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(3247013291337734921856486a^2b^2 - 487707494355492798465792a^3b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(578766813512700259152504a^4b^2 - 55569144425621557882368a^5b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(25269351498453419589528a^6b^2 - 1602018835046594428672a^7b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(370195651880697748820a^8b^2 - 15689445582764260736a^9b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(2087439969953671476a^{10}b^2 - 58468813304229120a^{11}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(4750821740163928a^{12}b^2 - 84242492063744a^{13}b^2 + 4257347456440a^{14}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-43147177216a^{15}b^2 + 1329411798a^{16}b^2 - 5833152a^{17}b^2 + 101270a^{18}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(241267169563052363088120b^3 + 2390679677928237561325764ab^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-118376756167756955558976a^2b^3 + 1069723423974172792854432a^3b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576a(-73412302976440694272864a^4b^3 + 85708503942978833303088a^5b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-4486762200702529931456a^6b^3 + 2032160944746901008352a^7b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-75567875027920642224a^8b^3 + 17435826446289154904a^9b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-443173273806431168a^{10}b^3 + 58688234696618592a^{11}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-965145307715680a^{12}b^3 + 77482715861936a^{13}b^3 - 739925609280a^{14}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(36486689824a^{15}b^3 - 152877192a^{16}b^3 + 4496388a^{17}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(494596201192089090034869b^4 + 159282919505046680273088ab^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(857587129604174976184152a^2b^4 - 14265255505108212052032a^3b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(141617455571638054961004a^4b^4 - 5069443533257446371392a^5b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(5716824118452685579432a^6b^4 - 173659393928659459392a^7b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(76408301725468014302a^8b^4 - 1705097951760448960a^9b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(382981184786432232a^{10}b^4 - 5748183402410176a^{11}b^4 + 739094390507564a^{12}b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-6601942737600a^{13}b^4 + 510864616600a^{14}b^4 - 2038362560a^{15}b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576a(95548245a^{16}b^4 + 55034701912518351591456b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(285611154005039511961584ab^5 + 31537703278468962890016a^2b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(118731229184286059092336a^3b^5 - 774244540786354732640a^4b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(8798607203538482909488a^5b^5 - 176035164115167701344a^6b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(189881872539940117680a^7b^5 - 3418043416078880160a^8b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(1440342352090916560a^9b^5 - 1891246230233600a^{10}b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(4072058462779216a^{11}b^5 - 33224290546720a^{12}b^5 + 4082173819920a^{13}b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-15287719200a^{14}b^5 + 1121099408a^{15}b^5 + 30696135069207383810376b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(17710187496390694640512ab^6 + 49579959836428198057816a^2b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(2613497180326239520768a^3b^6 + 7581683894366315268808a^4b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-20429562257255831680a^5b^6 + 278361738507093353112a^6b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-3197371717288027136a^7b^6 + 3279322945283002904a^8b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-34316197434879360a^9b^6 + 13725332250654024a^{10}b^6 - 97498766124032a^{11}b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576a(19915668515288a^{12}b^6 - 68049950080a^{13}b^6 + 7898654920a^{14}b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(2343992158584420586080b^7 + 9387196633733502410704ab^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(1847060337580314435904a^2b^7 + 3622196907545420899552a^3b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(103850901458631600416a^4b^7 + 244302154198631848176a^5b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-265755754689439872a^6b^7 + 4641765626221435712a^7b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-30170018493824352a^8b^7 + 29303554370067120a^9b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-164092203484352a^{10}b^7 + 61905754398176a^{11}b^7 - 183248794144a^{12}b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(35240152720a^{13}b^7 + 607830042927427864802b^8 + 434768252883794087648ab^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(914874909079607142212a^2b^8 + 84032873298205250848a^3b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(127613060239609321806a^4b^8 + 2096969471736494784a^5b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(4127078539954327672a^6b^8 - 1603091087193024a^7b^8 + 40409776620754398a^8b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(-137325965531040a^9b^8 + 125931280354308a^{10}b^8 - 291042202464a^{11}b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(103077446706a^{12}b^8 + 31756623033963430512b^9 + 109114630913272338120ab^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576a(26602475348926704656a^2b^9 + 38562770055349646392a^3b^9)}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(1853448692351782240a^4b^9 + 2296049171414267984a^5b^9)}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(21574255542167328a^6b^9 + 36273797262928368a^7b^9 - 3510377442000a^8b^9)}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(170253305937000a^9b^9 - 234025162800a^{10}b^9 + 202112640600a^{11}b^9)}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(4570168856828959332b^{10} + 3589459131840268544ab^{10})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(6342459520540084084a^2b^{10} + 706602948189149440a^3b^{10})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(784258761123523400a^4b^{10} + 20270000707756800a^5b^{10})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(21136567641189000a^6b^{10} + 105592153455360a^7b^{10} + 153930050831700a^8b^{10})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(269128937220a^{10}b^{10} + 162745268724838800b^{11} + 501669242834717880ab^{11})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(132009830417604672a^2b^{11} + 158237225767248992a^3b^{11})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(8779541753513440a^4b^{11} + 7885294944326800a^5b^{11} + 103643929433408a^6b^{11})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(92873098607328a^7b^{11} + 191475133200a^8b^{11} + 244662670200a^9b^{11})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} + \\
 & + \frac{1048576a(14048772429629730b^{12} + 11291650320350400ab^{12})}{\left[\prod_{\Theta=1}^{20} \{a-b-(2\Theta-1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a-b+(2\Lambda-1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576a(17587079040893752a^2b^{12} + 2020184418709184a^3b^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(1832773289716460a^4b^{12} + 49222930655808a^5b^{12} + 36992002900216a^6b^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(194028134976a^7b^{12} + 151584480450a^8b^{12} + 333885390472608b^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(943016570640688ab^{13} + 243072775316000a^2b^{13} + 253385470855664a^3b^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(13093578701280a^4b^{13} + 9525291762448a^5b^{13} + 98672427616a^6b^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(63432274896a^7b^{13} + 17769956078408b^{14} + 13714881356416ab^{14})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(19271530266616a^2b^{14} + 1963099942400a^3b^{14} + 1532005860600a^4b^{14})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(29164264320a^5b^{14} + 17620076360a^6b^{14} + 267913306080b^{15})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(698946258192ab^{15} + 156953917120a^2b^{15} + 145742923040a^3b^{15})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(5095906400a^4b^{15} + 3159461968a^5b^{15} + 8671926933b^{16} + 5869933264ab^{16})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(7503722174a^2b^{16} + 509590640a^3b^{16} + 350343565a^4b^{16} + 74204424b^{17})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(178275708ab^{17} + 26978328a^2b^{17} + 22481940a^3b^{17} + 1360134b^{18})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{1048576a(648128ab^{18} + 749398a^2b^{18} + 4920b^{19} + 10660ab^{19} + 41b^{20})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576b(319830986772877770815625 - 298677783336611201523000a)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(1705346918813318904159750a^2 + 241267169563052363088120a^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(494596201192089090034869a^4 + 55034701912518351591456a^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(30696135069207383810376a^6 + 2343992158584420586080a^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(607830042927427864802a^8 + 31756623033963430512a^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(4570168856828959332a^{10} + 162745268724838800a^{11} + 14048772429629730a^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(333885390472608a^{13} + 17769956078408a^{14} + 267913306080a^{15})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(8671926933a^{16} + 74204424a^{17} + 1360134a^{18} + 4920a^{19} + 41a^{20})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-793076329745158961502000b + 2892376317865531121862300ab)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-373453489652412879057600a^2b + 2390679677928237561325764a^3b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(159282919505046680273088a^4b + 285611154005039511961584a^5b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(17710187496390694640512a^6b + 9387196633733502410704a^7b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(434768252883794087648a^8b + 109114630913272338120a^9b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576b(3589459131840268544a^{10}b + 501669242834717880a^{11}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(11291650320350400a^{12}b + 943016570640688a^{13}b + 13714881356416a^{14}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(698946258192a^{15}b + 5869933264a^{16}b + 178275708a^{17}b + 648128a^{18}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(10660a^{19}b + 787995759739909824183150b^2 - 1239559320811518856051560ab^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(3247013291337734921856486a^2b^2 - 118376756167756955558976a^3b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(857587129604174976184152a^4b^2 + 31537703278468962890016a^5b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(49579959836428198057816a^6b^2 + 1847060337580314435904a^7b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(914874909079607142212a^8b^2 + 26602475348926704656a^9b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(6342459520540084084a^{10}b^2 + 132009830417604672a^{11}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(17587079040893752a^{12}b^2 + 243072775316000a^{13}b^2 + 19271530266616a^{14}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(156953917120a^{15}b^2 + 7503722174a^{16}b^2 + 26978328a^{17}b^2 + 749398a^{18}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-440604294676004639627280b^3 + 1434781934695498765973076ab^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-487707494355492798465792a^2b^3 + 1069723423974172792854432a^3b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576b(-14265255505108212052032a^4b^3 + 118731229184286059092336a^5b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(2613497180326239520768a^6b^3 + 3622196907545420899552a^7b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(84032873298205250848a^8b^3 + 38562770055349646392a^9b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(706602948189149440a^{10}b^3 + 158237225767248992a^{11}b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(2020184418709184a^{12}b^3 + 253385470855664a^{13}b^3 + 1963099942400a^{14}b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(145742923040a^{15}b^3 + 509590640a^{16}b^3 + 22481940a^{17}b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(159940198124792648875341b^4 - 287187680273501906329824ab^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(578766813512700259152504a^2b^4 - 73412302976440694272864a^3b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(141617455571638054961004a^4b^4 - 774244540786354732640a^5b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(7581683894366315268808a^6b^4 + 103850901458631600416a^7b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(127613060239609321806a^8b^4 + 1853448692351782240a^9b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(784258761123523400a^{10}b^4 + 8779541753513440a^{11}b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(1832773289716460a^{12}b^4 + 13093578701280a^{13}b^4 + 1532005860600a^{14}b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576b(5095906400a^{15}b^4 + 350343565a^{16}b^4 - 40757108535689214225600b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(124624420367497369988976ab^5 - 55569144425621557882368a^2b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(85708503942978833303088a^3b^5 - 5069443533257446371392a^4b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(8798607203538482909488a^5b^5 - 20429562257255831680a^6b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(244302154198631848176a^7b^5 + 2096969471736494784a^8b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(2296049171414267984a^9b^5 + 20270000707756800a^{10}b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(7885294944326800a^{11}b^5 + 49222930655808a^{12}b^5 + 9525291762448a^{13}b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(29164264320a^{14}b^5 + 3159461968a^{15}b^5 + 7652296057856603272680b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(29164264320a^{14}b^5 + 3159461968a^{15}b^5 + 7652296057856603272680b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-14488222605675140113440ab^6 + 25269351498453419589528a^2b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-4486762200702529931456a^3b^6 + 5716824118452685579432a^4b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-176035164115167701344a^5b^6 + 278361738507093353112a^6b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-265755754689439872a^7b^6 + 4127078539954327672a^8b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 &+ \frac{1048576b(21574255542167328a^9b^6 + 21136567641189000a^{10}b^6 + 103643929433408a^{11}b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(36992002900216a^{12}b^6 + 98672427616a^{13}b^6 + 17620076360a^{14}b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(-1092926016966998436160b^7 + 3195527370095701704592ab^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(-1602018835046594428672a^2b^7 + 2032160944746901008352a^3b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(-173659393928659459392a^4b^7 + 189881872539940117680a^5b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(-3197371717288027136a^6b^7 + 4641765626221435712a^7b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(-1603091087193024a^8b^7 + 36273797262928368a^9b^7 + 105592153455360a^{10}b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(92873098607328a^{11}b^7 + 194028134976a^{12}b^7 + 63432274896a^{13}b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(121344378918220620226b^8 - 234077921187817903248ab^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(370195651880697748820a^2b^8 - 75567875027920642224a^3b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(76408301725468014302a^4b^8 - 3418043416078880160a^5b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(3279322945283002904a^6b^8 - 30170018493824352a^7b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 &+ \frac{1048576b(40409776620754398a^8b^8 - 3510377442000a^9b^8 + 153930050831700a^{10}b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{1048576b(191475133200a^{11}b^8 + 151584480450a^{12}b^8 - 10627666045365252000b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(29922450377139075912ab^9 - 15689445582764260736a^2b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(17435826446289154904a^3b^9 - 1705097951760448960a^4b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(1440342352090916560a^5b^9 - 34316197434879360a^6b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(29303554370067120a^7b^9 - 137325965531040a^8b^9 + 170253305937000a^9b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(244662670200a^{11}b^9 + 741138328282003860b^{10} - 1424245102551276720ab^{10})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(2087439969953671476a^2b^{10} - 443173273806431168a^3b^{10})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(382981184786432232a^4b^{10} - 18912462302333600a^5b^{10})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(13725332250654024a^6b^{10} - 164092203484352a^7b^{10} + 125931280354308a^8b^{10})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-234025162800a^9b^{10} + 269128937220a^{10}b^{10} - 41357055277206240b^{11})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(112269054410294808ab^{11} - 58468813304229120a^2b^{11})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(58688234696618592a^3b^{11} - 5748183402410176a^4b^{11})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(4072058462779216a^5b^{11} - 97498766124032a^6b^{11} + 61905754398176a^7b^{11})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{1048576b(-291042202464a^8b^{11} + 202112640600a^9b^{11} + 1848366089479026b^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-3464317208238432ab^{12} + 4750821740163928a^2b^{12} - 965145307715680a^3b^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(739094390507564a^4b^{12} - 33224290546720a^5b^{12} + 19915668515288a^6b^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-183248794144a^7b^{12} + 103077446706a^8b^{12} - 65952604619200b^{13})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(172047191152048ab^{13} - 84242492063744a^2b^{13} + 77482715861936a^3b^{13})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-6601942737600a^4b^{13} + 4082173819920a^5b^{13} - 68049950080a^6b^{13})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(35240152720a^7b^{13} + 1864098465640b^{14} - 3314002480800ab^{14})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(4257347456440a^2b^{14} - 739925609280a^3b^{14} + 510864616600a^4b^{14})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-15287719200a^5b^{14} + 7898654920a^6b^{14} - 41162809920b^{15})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(102253546704ab^{15} - 43147177216a^2b^{15} + 36486689824a^3b^{15})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(-2038362560a^4b^{15} + 1121099408a^5b^{15} + 694529781b^{16} - 1113365496ab^{16})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(1329411798a^2b^{16} - 152877192a^3b^{16} + 95548245a^4b^{16} - 8641200b^{17})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{1048576b(20032764ab^{17-5}833152a^2b^{17} + 4496388a^3b^{17} + 74670b^{18} - 93480ab^{18})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & \left. + \frac{1048576b(101270a^2b^{18} - 400b^{19} + 820ab^{19} + b^{20})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} \right\} - \\
 & - \frac{\Gamma(\frac{b+1}{2})}{\Gamma(\frac{a}{2})} \left\{ \frac{2097152(319830986772877770815625 + 298677783336611201523000a)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \right. \\
 & + \frac{2097152(1705346918813318904159750a^2 - 241267169563052363088120a^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(494596201192089090034869a^4 - 55034701912518351591456a^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(30696135069207383810376a^6 - 2343992158584420586080a^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(607830042927427864802a^8 - 31756623033963430512a^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(4570168856828959332a^{10} - 162745268724838800a^{11} + 14048772429629730a^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-333885390472608a^{13} + 17769956078408a^{14} - 267913306080a^{15})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(8671926933a^{16} - 74204424a^{17} + 1360134a^{18} - 4920a^{19} + 41a^{20})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(793076329745158961502000b + 2892376317865531121862300ab)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(373453489652412879057600a^2b + 2390679677928237561325764a^3b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-159282919505046680273088a^4b + 285611154005039511961584a^5b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-17710187496390694640512a^6b + 9387196633733502410704a^7b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(-434768252883794087648a^8b + 109114630913272338120a^9b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-3589459131840268544a^{10}b + 501669242834717880a^{11}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-11291650320350400a^{12}b + 943016570640688a^{13}b - 13714881356416a^{14}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(698946258192a^{15}b - 5869933264a^{16}b + 178275708a^{17}b - 648128a^{18}b)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(10660a^{19}b + 787995759739909824183150b^2 + 1239559320811518856051560ab^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(3247013291337734921856486a^2b^2 + 118376756167756955558976a^3b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(857587129604174976184152a^4b^2 - 31537703278468962890016a^5b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(49579959836428198057816a^6b^2 - 1847060337580314435904a^7b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(914874909079607142212a^8b^2 - 26602475348926704656a^9b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(6342459520540084084a^{10}b^2 - 132009830417604672a^{11}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(17587079040893752a^{12}b^2 - 243072775316000a^{13}b^2 + 19271530266616a^{14}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-156953917120a^{15}b^2 + 7503722174a^{16}b^2 - 26978328a^{17}b^2 + 749398a^{18}b^2)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(440604294676004639627280b^3 + 1434781934695498765973076ab^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(487707494355492798465792a^2b^3 + 1069723423974172792854432a^3b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(14265255505108212052032a^4b^3 + 118731229184286059092336a^5b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-2613497180326239520768a^6b^3 + 3622196907545420899552a^7b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-84032873298205250848a^8b^3 + 38562770055349646392a^9b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-706602948189149440a^{10}b^3 + 158237225767248992a^{11}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-2020184418709184a^{12}b^3 + 253385470855664a^{13}b^3 - 1963099942400a^{14}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(145742923040a^{15}b^3 - 509590640a^{16}b^3 + 22481940a^{17}b^3)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(159940198124792648875341b^4 + 287187680273501906329824ab^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(578766813512700259152504a^2b^4 + 73412302976440694272864a^3b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(141617455571638054961004a^4b^4 + 774244540786354732640a^5b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(7581683894366315268808a^6b^4 - 103850901458631600416a^7b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(127613060239609321806a^8b^4 - 1853448692351782240a^9b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(784258761123523400a^{10}b^4 - 8779541753513440a^{11}b^4 + 1832773289716460a^{12}b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(-13093578701280a^{13}b^4 + 1532005860600a^{14}b^4 - 5095906400a^{15}b^4)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(350343565a^{16}b^4 + 40757108535689214225600b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(124624420367497369988976ab^5 + 55569144425621557882368a^2b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(85708503942978833303088a^3b^5 + 5069443533257446371392a^4b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(8798607203538482909488a^5b^5 + 20429562257255831680a^6b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(244302154198631848176a^7b^5 - 2096969471736494784a^8b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(2296049171414267984a^9b^5 - 20270000707756800a^{10}b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(7885294944326800a^{11}b^5 - 49222930655808a^{12}b^5 + 9525291762448a^{13}b^5)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-29164264320a^{14}b^5 + 3159461968a^{15}b^5 + 7652296057856603272680b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(14488222605675140113440ab^6 + 25269351498453419589528a^2b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(4486762200702529931456a^3b^6 + 5716824118452685579432a^4b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(176035164115167701344a^5b^6 + 278361738507093353112a^6b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(265755754689439872a^7b^6 + 4127078539954327672a^8b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{2097152(-21574255542167328a^9b^6 + 21136567641189000a^{10}b^6 - 103643929433408a^{11}b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(36992002900216a^{12}b^6 - 98672427616a^{13}b^6 + 17620076360a^{14}b^6)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(1092926016966998436160b^7 + 3195527370095701704592ab^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(1602018835046594428672a^2b^7 + 2032160944746901008352a^3b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(173659393928659459392a^4b^7 + 189881872539940117680a^5b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(3197371717288027136a^6b^7 + 4641765626221435712a^7b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(1603091087193024a^8b^7 + 36273797262928368a^9b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(-105592153455360a^{10}b^7 + 92873098607328a^{11}b^7 - 194028134976a^{12}b^7)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(63432274896a^{13}b^7 + 121344378918220620226b^8 + 234077921187817903248ab^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(370195651880697748820a^2b^8 + 75567875027920642224a^3b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(76408301725468014302a^4b^8 + 3418043416078880160a^5b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(3279322945283002904a^6b^8 + 30170018493824352a^7b^8 + 40409776620754398a^8b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(3510377442000a^9b^8 + 153930050831700a^{10}b^8 - 191475133200a^{11}b^8)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 &+ \frac{2097152(151584480450a^12b^8 + 10627666045365252000b^9 + 29922450377139075912ab^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(15689445582764260736a^2b^9 + 17435826446289154904a^3b^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(1705097951760448960a^4b^9 + 1440342352090916560a^5b^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(34316197434879360a^6b^9 + 29303554370067120a^7b^9 + 137325965531040a^8b^9)}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(170253305937000a^9b^9 + 244662670200a^11b^9 + 741138328282003860b^{10})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(1424245102551276720ab^{10} + 2087439969953671476a^2b^{10})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(443173273806431168a^3b^{10} + 382981184786432232a^4b^{10})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(18912462302333600a^5b^{10} + 13725332250654024a^6b^{10} + 164092203484352a^7b^{10})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(125931280354308a^8b^{10} + 234025162800a^9b^{10} + 269128937220a^{10}b^{10})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(41357055277206240b^{11} + 112269054410294808ab^{11} + 58468813304229120a^2b^{11})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(58688234696618592a^3b^{11} + 5748183402410176a^4b^{11} + 4072058462779216a^5b^{11})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(97498766124032a^6b^{11} + 61905754398176a^7b^{11} + 291042202464a^8b^{11})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 &+ \frac{2097152(202112640600a^9b^{11} + 1848366089479026b^{12} + 3464317208238432ab^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{2097152(4750821740163928a^2b^{12} + 965145307715680a^3b^{12} + 739094390507564a^4b^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(33224290546720a^5b^{12} + 19915668515288a^6b^{12} + 183248794144a^7b^{12})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(103077446706a^8b^{12} + 65952604619200b^{13} + 172047191152048ab^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(84242492063744a^2b^{13} + 77482715861936a^3b^{13} + 6601942737600a^4b^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(4082173819920a^5b^{13} + 68049950080a^6b^{13} + 35240152720a^7b^{13})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(1864098465640b^{14} + 3314002480800ab^{14} + 4257347456440a^2b^{14})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(739925609280a^3b^{14} + 510864616600a^4b^{14} + 15287719200a^5b^{14})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(7898654920a^6b^{14} + 41162809920b^{15} + 102253546704ab^{15} + 43147177216a^2b^{15})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(36486689824a^3b^{15} + 2038362560a^4b^{15} + 1121099408a^5b^{15} + 694529781b^{16})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(1113365496ab^{16} + 1329411798a^2b^{16} + 152877192a^3b^{16} + 95548245a^4b^{16})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(8641200b^{17} + 20032764ab^{17} + 5833152a^2b^{17} + 4496388a^3b^{17} + 74670b^{18})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(93480ab^{18} + 101270a^2b^{18} + 400b^{19} + 820ab^{19} + b^{20})}{\left[\prod_{\Theta=1}^{20} \{a - b - (2\Theta - 1)\} \right] \left[\prod_{\Lambda=1}^{21} \{a - b + (2\Lambda - 1)\} \right]} + \\
 & + \frac{2097152(319830986772877770815625 + 793076329745158961502000a)}{\left[\prod_{\Theta=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(787995759739909824183150a^2 + 440604294676004639627280a^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(159940198124792648875341a^4 + 40757108535689214225600a^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(7652296057856603272680a^6 + 1092926016966998436160a^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(121344378918220620226a^8 + 10627666045365252000a^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(741138328282003860a^{10} + 41357055277206240a^{11} + 1848366089479026a^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(65952604619200a^{13} + 1864098465640a^{14} + 41162809920a^{15} + 694529781a^{16})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(8641200a^{17} + 74670a^{18} + 400a^{19} + a^{20} + 298677783336611201523000b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(2892376317865531121862300ab + 1239559320811518856051560a^2b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(1434781934695498765973076a^3b + 287187680273501906329824a^4b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(124624420367497369988976a^5b + 14488222605675140113440a^6b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(3195527370095701704592a^7b + 234077921187817903248a^8b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(29922450377139075912a^9b + 1424245102551276720a^{10}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(112269054410294808a^{11}b + 3464317208238432a^{12}b + 172047191152048a^{13}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(3314002480800a^{14}b + 102253546704a^{15}b + 1113365496a^{16}b + 20032764a^{17}b)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(93480a^{18}b + 820a^{19}b + 1705346918813318904159750b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(373453489652412879057600ab^2 + 3247013291337734921856486a^2b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(487707494355492798465792a^3b^2 + 578766813512700259152504a^4b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(55569144425621557882368a^5b^2 + 25269351498453419589528a^6b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(1602018835046594428672a^7b^2 + 370195651880697748820a^8b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(15689445582764260736a^9b^2 + 2087439969953671476a^{10}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(58468813304229120a^{11}b^2 + 4750821740163928a^{12}b^2 + 84242492063744a^{13}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(4257347456440a^{14}b^2 + 43147177216a^{15}b^2 + 1329411798a^{16}b^2 + 5833152a^{17}b^2)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(101270a^{18}b^2 - 241267169563052363088120b^3 + 2390679677928237561325764ab^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(118376756167756955558976a^2b^3 + 1069723423974172792854432a^3b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(73412302976440694272864a^4b^3 + 85708503942978833303088a^5b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(4486762200702529931456a^6b^3 + 2032160944746901008352a^7b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(75567875027920642224a^8b^3 + 17435826446289154904a^9b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(443173273806431168a^{10}b^3 + 58688234696618592a^{11}b^3 + 965145307715680a^{12}b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(77482715861936a^{13}b^3 + 739925609280a^{14}b^3 + 36486689824a^{15}b^3)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(152877192a^{16}b^3 + 4496388a^{17}b^3 + 494596201192089090034869b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-159282919505046680273088ab^4 + 857587129604174976184152a^2b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(14265255505108212052032a^3b^4 + 141617455571638054961004a^4b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(5069443533257446371392a^5b^4 + 5716824118452685579432a^6b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(173659393928659459392a^7b^4 + 76408301725468014302a^8b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(1705097951760448960a^9b^4 + 382981184786432232a^{10}b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(5748183402410176a^{11}b^4 + 739094390507564a^{12}b^4 + 6601942737600a^{13}b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(510864616600a^{14}b^4 + 2038362560a^{15}b^4 + 95548245a^{16}b^4)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-55034701912518351591456b^5 + 285611154005039511961584ab^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-31537703278468962890016a^2b^5 + 118731229184286059092336a^3b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$



$$\begin{aligned}
 & + \frac{2097152(774244540786354732640a^4b^5 + 8798607203538482909488a^5b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(176035164115167701344a^6b^5 + 189881872539940117680a^7b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(3418043416078880160a^8b^5 + 1440342352090916560a^9b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(18912462302333600a^{10}b^5 + 4072058462779216a^{11}b^5 + 33224290546720a^{12}b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(4082173819920a^{13}b^5 + 15287719200a^{14}b^5 + 1121099408a^{15}b^5)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(30696135069207383810376b^6 - 17710187496390694640512ab^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(49579959836428198057816a^2b^6 - 2613497180326239520768a^3b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(7581683894366315268808a^4b^6 + 20429562257255831680a^5b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(278361738507093353112a^6b^6 + 3197371717288027136a^7b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(3279322945283002904a^8b^6 + 34316197434879360a^9b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(13725332250654024a^{10}b^6 + 97498766124032a^{11}b^6 + 19915668515288a^{12}b^6)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(68049950080a^{13}b^6 + 7898654920a^{14}b^6 - 2343992158584420586080b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(9387196633733502410704ab^7 - 1847060337580314435904a^2b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(3622196907545420899552a^3b^7 - 103850901458631600416a^4b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(244302154198631848176a^5b^7 + 265755754689439872a^6b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(4641765626221435712a^7b^7 + 30170018493824352a^8b^7 + 29303554370067120a^9b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(164092203484352a^{10}b^7 + 61905754398176a^{11}b^7 + 183248794144a^{12}b^7)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(35240152720a^{13}b^7 + 607830042927427864802b^8 - 434768252883794087648ab^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(914874909079607142212a^2b^8 - 84032873298205250848a^3b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(127613060239609321806a^4b^8 - 2096969471736494784a^5b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(4127078539954327672a^6b^8 + 1603091087193024a^7b^8 + 40409776620754398a^8b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(137325965531040a^9b^8 + 125931280354308a^{10}b^8 + 291042202464a^{11}b^8)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(103077446706a^{12}b^8 - 31756623033963430512b^9 + 109114630913272338120ab^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-26602475348926704656a^2b^9 + 38562770055349646392a^3b^9)}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-2020184418709184a^3b^{12} + 1832773289716460a^4b^{12} - 49222930655808a^5b^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(36992002900216a^6b^{12} - 194028134976a^7b^{12} + 151584480450a^8b^{12})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} +
 \end{aligned}$$

$$\begin{aligned}
 & + \frac{2097152(-333885390472608b^{13} + 943016570640688ab^{13} - 243072775316000a^2b^{13})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(253385470855664a^3b^{13} - 13093578701280a^4b^{13} + 9525291762448a^5b^{13})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-98672427616a^6b^{13} + 63432274896a^7b^{13} + 17769956078408b^{14})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-13714881356416ab^{14} + 19271530266616a^2b^{14} - 1963099942400a^3b^{14})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(1532005860600a^4b^{14} - 29164264320a^5b^{14} + 17620076360a^6b^{14})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-267913306080b^{15} + 698946258192ab^{15} - 156953917120a^2b^{15})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(145742923040a^3b^{15} - 5095906400a^4b^{15} + 3159461968a^5b^{15} + 8671926933b^{16})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-5869933264ab^{16} + 7503722174a^2b^{16} - 509590640a^3b^{16} + 350343565a^4b^{16})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(-74204424b^{17} + 178275708ab^{17} - 26978328a^2b^{17} + 22481940a^3b^{17})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} + \\
 & + \frac{2097152(1360134b^{18} - 648128ab^{18} + 749398a^2b^{18} - 4920b^{19} + 10660ab^{19} + 41b^{20})}{\left[\prod_{\Phi=1}^{21} \{a - b - (2\Phi - 1)\} \right] \left[\prod_{\Psi=1}^{20} \{a - b + (2\Psi - 1)\} \right]} \Bigg\}
 \end{aligned}$$

III. DERIVATION OF THE MAIN SUMMATION FORMULA

Applying parallel method discovered jointly by both the authors in [5 ; 6], we get the main result.

IV. ACKNOWLEDGEMENT

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