```
(* Modify filename to appropriate local path *)
filename = "C:\\Users\\jschw\\Dropbox\\Manuscripts\\OTF
    Expansion\\Diaz Response\\Glist.dat";
Glist = Get[filename];
nmax = 30;
k = 1;
For[n = 0, n ≤ nmax, n += 2,
  Print["G(", n + 1, ",", n + 1, ",0;β}"];
  Print[Glist[[k]]];
  Print[];
  k++;
 ];
For[n = 0, n ≤ nmax - 2, n += 2,
  For[np = n + 2, np ≤ nmax, np += 2,
    Print["G(", n + 1, ",", np + 1, ",0;β}"];
    Print[Glist[[k]]];
    Print[];
    k++;
   ];
 ];
```

$G(1,1,0;\beta\}$

$$-\frac{\beta\sqrt{1-\frac{\beta^2}{4}}}{\pi}+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

$G(3,3,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{10}{3\pi}+\frac{14\,\beta^2}{9\pi}-\frac{2\,\beta^4}{9\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{3\pi}$$

$G(5,5,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{18}{5\pi}+\frac{76\,\beta^2}{15\pi}-\frac{236\,\beta^4}{75\pi}+\frac{21\,\beta^6}{25\pi}-\frac{2\,\beta^8}{25\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{5\pi}$$

$G(7,7,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{26}{7\pi}+\frac{218\,\beta^2}{21\pi}-\frac{1462\,\beta^4}{105\pi}+\frac{2299\,\beta^6}{245\pi}-\frac{2434\,\beta^8}{735\pi}+\frac{86\,\beta^{10}}{147\pi}-\frac{2\,\beta^{12}}{49\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{7\pi}$$

$G(9,9,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{34}{9\pi}+\frac{472\,\beta^2}{27\pi}-\frac{5432\,\beta^4}{135\pi}+\frac{15\,434\,\beta^6}{315\pi}-\frac{96\,952\,\beta^8}{2835\pi}+\frac{8027\,\beta^{10}}{567\pi}-\frac{649\,\beta^{12}}{189\pi}+\frac{73\,\beta^{14}}{162\pi}-\frac{2\,\beta^{16}}{81\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{9\pi}$$

G(11,11,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{42}{11\pi}+\frac{290\,\beta^2}{11\pi}-\frac{5078\,\beta^4}{55\pi}+\frac{67\,458\,\beta^6}{385\pi}-\frac{685\,904\,\beta^8}{3465\pi}+\frac{1\,073\,099\,\beta^{10}}{7623\pi}-\frac{164\,233\,\beta^{12}}{2541\pi}+\frac{208\,271\,\beta^{14}}{10\,890\pi}-\frac{19\,174\,\beta^{16}}{5445\pi}+\frac{222\,\beta^{18}}{605\pi}-\frac{2\,\beta^{20}}{121\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{11\pi}$$

G(13,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{50}{13\pi}+\frac{1444\,\beta^2}{39\pi}-\frac{35\,684\,\beta^4}{195\pi}+\frac{225\,973\,\beta^6}{455\pi}-\frac{3\,351\,854\,\beta^8}{4095\pi}+\frac{7\,875\,251\,\beta^{10}}{9009\pi}-\frac{24\,546\,061\,\beta^{12}}{39\,039\pi}+\frac{51\,942\,923\,\beta^{14}}{167\,310\pi}-\frac{8\,819\,782\,\beta^{16}}{83\,655\pi}+\frac{224\,936\,\beta^{18}}{9295\pi}-\frac{20\,000\,\beta^{20}}{5577\pi}+\frac{157\,\beta^{22}}{507\pi}-\frac{2\,\beta^{24}}{169\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{13\pi}$$

G(15,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{58}{15\pi}+\frac{742\,\beta^2}{15\pi}-\frac{1638\,\beta^4}{5\pi}+\frac{126\,113\,\beta^6}{105\pi}-\frac{2\,557\,126\,\beta^8}{945\pi}+\frac{41\,752\,919\,\beta^{10}}{10\,395\pi}-\frac{185\,070\,601\,\beta^{12}}{45\,045\pi}+\frac{574\,830\,827\,\beta^{14}}{193\,050\pi}-\frac{149\,774\,398\,\beta^{16}}{96\,525\pi}+\frac{6\,255\,334\,\beta^{18}}{10\,725\pi}-\frac{784\,282\,\beta^{20}}{5005\pi}+\frac{40\,049\,\beta^{22}}{1365\pi}-\frac{24\,814\,\beta^{24}}{6825\pi}+\frac{422\,\beta^{26}}{1575\pi}-\frac{2\,\beta^{28}}{225\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{15\pi}$$

G(17,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{66}{17\pi}+\frac{3248\,\beta^2}{51\pi}-\frac{138\,736\,\beta^4}{255\pi}+\frac{1\,539\,172\,\beta^6}{595\pi}-\frac{40\,785\,056\,\beta^8}{5355\pi}+\frac{175\,893\,926\,\beta^{10}}{11\,781\pi}-\frac{1\,044\,177\,850\,\beta^{12}}{51\,051\pi}+\frac{2\,212\,392\,253\,\beta^{14}}{109\,395\pi}-\frac{27\,403\,959\,728\,\beta^{16}}{1\,859\,715\pi}+\frac{1\,654\,042\,119\,\beta^{18}}{206\,635\pi}-\frac{2\,823\,470\,921\,\beta^{20}}{867\,867\pi}+\frac{155\,349\,293\,\beta^{22}}{157\,794\pi}-\frac{28\,732\,211\,\beta^{24}}{131\,495\pi}+\frac{2\,095\,231\,\beta^{26}}{60\,690\pi}-\frac{31\,861\,\beta^{28}}{8670\pi}+\frac{273\,\beta^{30}}{1156\pi}-\frac{2\,\beta^{32}}{289\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{17\pi}$$

G(19,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{74}{19\pi}+\frac{1514\,\beta^2}{19\pi}-\frac{81\,022\,\beta^4}{95\pi}+\frac{3\,391\,092\,\beta^6}{665\pi}-\frac{113\,593\,456\,\beta^8}{5985\pi}+\frac{623\,714\,530\,\beta^{10}}{13\,167\pi}-\frac{4\,757\,971\,934\,\beta^{12}}{57\,057\pi}+\frac{13\,110\,033\,293\,\beta^{14}}{122\,265\pi}-\frac{214\,427\,682\,328\,\beta^{16}}{2\,078\,505\pi}+\frac{331\,142\,681\,011\,\beta^{18}}{4\,387\,955\pi}-\frac{780\,879\,664\,709\,\beta^{20}}{18\,429\,411\pi}+\frac{61\,399\,691\,687\,\beta^{22}}{3\,350\,802\pi}-\frac{17\,000\,921\,489\,\beta^{24}}{2\,792\,335\pi}+\frac{5\,952\,945\,787\,\beta^{26}}{3\,866\,310\pi}-\frac{160\,663\,177\,\beta^{28}}{552\,330\pi}+\frac{2\,926\,409\,\beta^{30}}{73\,644\pi}-\frac{204\,718\,\beta^{32}}{55\,233\pi}+\frac{686\,\beta^{34}}{3249\pi}-\frac{2\,\beta^{36}}{361\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{19\pi}$$

G(21,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{82}{21\pi}+\frac{6140\,\beta^2}{63\pi}-\frac{402\,268\,\beta^4}{315\pi}+\frac{2\,296\,397\,\beta^6}{245\pi}-\frac{284\,351\,758\,\beta^8}{6615\pi}+\frac{1\,933\,523\,866\,\beta^{10}}{14\,553\pi}-\frac{18\,385\,088\,294\,\beta^{12}}{63\,063\pi}+\frac{63\,663\,213\,113\,\beta^{14}}{135\,135\pi}-\frac{1\,322\,088\,814\,048\,\beta^{16}}{2\,297\,295\pi}+\frac{2\,625\,730\,008\,901\,\beta^{18}}{4\,849\,845\pi}-\frac{1\,155\,968\,421\,077\,\beta^{20}}{2\,909\,907\pi}+\frac{121\,221\,125\,771\,\beta^{22}}{529\,074\pi}-\frac{45\,950\,813\,921\,\beta^{24}}{440\,895\pi}+\frac{22\,799\,882\,893\,\beta^{26}}{610\,470\pi}-\frac{6\,397\,493\,161\,\beta^{28}}{610\,470\pi}+\frac{185\,121\,257\,\beta^{30}}{81\,396\pi}-\frac{22\,823\,014\,\beta^{32}}{61\,047\pi}+\frac{5\,652\,412\,\beta^{34}}{125\,685\pi}-\frac{52\,124\,\beta^{36}}{13\,965\pi}+\frac{421\,\beta^{38}}{2205\pi}-\frac{2\,\beta^{40}}{441\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{21\pi}$$

G(23,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{90}{23\pi}+\frac{8074\,\beta^2}{69\pi}-\frac{635\,558\,\beta^4}{345\pi}+\frac{13\,103\,871\,\beta^6}{805\pi}-\frac{652\,970\,758\,\beta^8}{7245\pi}+\frac{5\,380\,277\,956\,\beta^{10}}{15\,939\pi}-\frac{62\,286\,515\,084\,\beta^{12}}{69\,069\pi}+\frac{264\,152\,026\,313\,\beta^{14}}{148\,005\pi}-\frac{6\,767\,371\,329\,448\,\beta^{16}}{2\,516\,085\pi}+\frac{16\,728\,912\,358\,651\,\beta^{18}}{5\,311\,735\pi}-\frac{64\,870\,555\,625\,669\,\beta^{20}}{22\,309\,287\pi}+\frac{199\,526\,832\,327\,211\,\beta^{22}}{93\,293\,382\pi}-\frac{98\,062\,747\,283\,041\,\beta^{24}}{77\,744\,485\pi}+\frac{64\,411\,121\,870\,813\,\beta^{26}}{107\,646\,210\pi}-\frac{3\,509\,960\,330\,303\,\beta^{28}}{15\,378\,030\pi}+\frac{142\,972\,573\,039\,\beta^{30}}{2\,050\,404\pi}-\frac{286\,178\,814\,598\,\beta^{32}}{16\,915\,833\pi}+\frac{111\,931\,051\,966\,\beta^{34}}{34\,826\,715\pi}-\frac{1\,808\,869\,962\,\beta^{36}}{3\,869\,635\pi}+\frac{30\,687\,113\,\beta^{38}}{610\,995\pi}-\frac{458\,770\,\beta^{40}}{122\,199\pi}+\frac{1014\,\beta^{42}}{5819\pi}-\frac{2\,\beta^{44}}{529\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{23\pi}$$

G(25,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{98}{25\pi}+\frac{10\,376\,\beta^2}{75\pi}-\frac{966\,184\,\beta^4}{375\pi}+\frac{23\,601\,358\,\beta^6}{875\pi}-\frac{1\,396\,339\,384\,\beta^8}{7875\pi}+\frac{13\,698\,855\,223\,\beta^{10}}{17\,325\pi}-\frac{189\,497\,892\,377\,\beta^{12}}{75\,075\pi}+\frac{1\,929\,027\,621\,013\,\beta^{14}}{321\,750\pi}-\frac{29\,815\,882\,512\,574\,\beta^{16}}{2\,734\,875\pi}+\frac{89\,511\,691\,368\,163\,\beta^{18}}{5\,773\,625\pi}-\frac{424\,840\,011\,319\,517\,\beta^{20}}{24\,249\,225\pi}+\frac{1\,614\,408\,317\,652\,883\,\beta^{22}}{101\,405\,850\pi}-\frac{4\,957\,178\,581\,272\,893\,\beta^{24}}{422\,524\,375\pi}+\frac{4\,124\,942\,956\,449\,769\,\beta^{26}}{585\,033\,750\pi}-\frac{289\,625\,455\,270\,339\,\beta^{28}}{83\,576\,250\pi}+\frac{15\,525\,234\,936\,371\,\beta^{30}}{11\,143\,500\pi}-\frac{42\,009\,866\,446\,358\,\beta^{32}}{91\,933\,875\pi}+\frac{23\,006\,853\,479\,276\,\beta^{34}}{189\,275\,625\pi}-\frac{545\,998\,609\,652\,\beta^{36}}{21\,030\,625\pi}+\frac{14\,557\,939\,448\,\beta^{38}}{3\,320\,625\pi}-\frac{379\,661\,764\,\beta^{40}}{664\,125\pi}+\frac{1\,754\,851\,\beta^{42}}{31\,625\pi}-\frac{162\,703\,\beta^{44}}{43\,125\pi}+\frac{601\,\beta^{46}}{3750\pi}-\frac{2\,\beta^{48}}{625\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{25\pi}$$

G(27,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{106}{27\pi}+\frac{13\,078\,\beta^2}{81\pi}-\frac{284\,362\,\beta^4}{81\pi}+\frac{8\,119\,774\,\beta^6}{189\pi}-\frac{562\,493\,152\,\beta^8}{1701\pi}+\frac{32\,378\,020\,805\,\beta^{10}}{18\,711\pi}-\frac{527\,032\,424\,635\,\beta^{12}}{81\,081\pi}+\frac{1\,266\,884\,981\,905\,\beta^{14}}{69\,498\pi}-\frac{23\,214\,258\,496\,630\,\beta^{16}}{590\,733\pi}+\frac{83\,025\,754\,647\,235\,\beta^{18}}{1\,247\,103\pi}-\frac{2\,360\,857\,622\,151\,745\,\beta^{20}}{26\,189\,163\pi}+\frac{10\,823\,828\,867\,694\,035\,\beta^{22}}{109\,518\,318\pi}-\frac{40\,426\,217\,296\,511\,581\,\beta^{24}}{456\,326\,325\pi}+\frac{123\,948\,494\,694\,475\,819\,\beta^{26}}{1\,895\,509\,350\pi}-\frac{10\,813\,851\,121\,246\,489\,\beta^{28}}{270\,787\,050\pi}+\frac{730\,470\,882\,055\,961\,\beta^{30}}{36\,104\,940\pi}-\frac{2\,533\,969\,725\,215\,018\,\beta^{32}}{297\,865\,755\pi}+\frac{1\,817\,487\,592\,202\,666\,\beta^{34}}{613\,253\,025\pi}-\frac{58\,042\,363\,382\,182\,\beta^{36}}{68\,139\,225\pi}+\frac{28\,047\,333\,918\,784\,\beta^{38}}{139\,864\,725\pi}-\frac{1\,069\,677\,555\,572\,\beta^{40}}{27\,972\,945\pi}+\frac{7\,739\,661\,803\,\beta^{42}}{1\,332\,045\pi}-\frac{3\,741\,077\,077\,\beta^{44}}{5\,449\,275\pi}+\frac{28\,792\,909\,\beta^{46}}{473\,850\pi}-\frac{299\,218\,\beta^{48}}{78\,975\pi}+\frac{1406\,\beta^{50}}{9477\pi}-\frac{2\,\beta^{52}}{729\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{27\pi}$$

G(29,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{114}{29\pi}+\frac{5404\,\beta^2}{29\pi}-\frac{135\,660\,\beta^4}{29\pi}+\frac{13\,429\,845\,\beta^6}{203\pi}-\frac{358\,860\,034\,\beta^8}{609\pi}+\frac{23\,944\,970\,855\,\beta^{10}}{6699\pi}-\frac{452\,796\,599\,065\,\beta^{12}}{29\,029\pi}+\frac{1\,267\,823\,308\,075\,\beta^{14}}{24\,882\pi}-\frac{27\,146\,596\,288\,450\,\beta^{16}}{211\,497\pi}+\frac{341\,643\,402\,092\,535\,\beta^{18}}{1\,339\,481\pi}-\frac{3\,815\,190\,462\,070\,655\,\beta^{20}}{9\,376\,367\pi}+\frac{20\,715\,540\,657\,072\,685\,\beta^{22}}{39\,210\,262\pi}-\frac{276\,577\,422\,635\,065\,281\,\beta^{24}}{490\,128\,275\pi}+\frac{1\,017\,691\,851\,080\,510\,219\,\beta^{26}}{2\,035\,917\,450\pi}-\frac{3\,116\,206\,127\,522\,472\,181\,\beta^{28}}{8\,434\,515\,150\pi}+\frac{257\,299\,647\,416\,425\,589\,\beta^{30}}{1\,124\,602\,020\pi}-\frac{1\,104\,009\,499\,076\,409\,962\,\beta^{32}}{9\,277\,966\,665\pi}+\frac{993\,504\,155\,420\,630\,264\,\beta^{34}}{19\,101\,696\,075\pi}-\frac{40\,505\,998\,838\,390\,128\,\beta^{36}}{2\,122\,410\,675\pi}+\frac{25\,532\,881\,327\,778\,611\,\beta^{38}}{4\,356\,527\,175\pi}-\frac{1\,305\,402\,500\,741\,618\,\beta^{40}}{871\,305\,435\pi}+\frac{13\,119\,634\,202\,567\,\beta^{42}}{41\,490\,735\pi}-\frac{9\,241\,431\,943\,033\,\beta^{44}}{169\,734\,825\pi}+\frac{110\,966\,925\,361\,\beta^{46}}{14\,759\,550\pi}-\frac{13\,982\,636\,254\,\beta^{48}}{17\,219\,475\pi}+\frac{136\,473\,392\,\beta^{50}}{2\,066\,337\pi}-\frac{604\,424\,\beta^{52}}{158\,949\pi}+\frac{813\,\beta^{54}}{5887\pi}-\frac{2\,\beta^{56}}{841\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{29\pi}$$

$G(31,31,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{122}{31\pi}+\frac{19\,810\,\beta^2}{93\pi}-\frac{2\,843\,102\,\beta^4}{465\pi}+\frac{107\,357\,449\,\beta^6}{1085\pi}-\frac{3\,286\,205\,354\,\beta^8}{3255\pi}+\frac{50\,307\,298\,847\,\beta^{10}}{7161\pi}-\frac{1\,093\,194\,637\,345\,\beta^{12}}{31\,031\pi}+\frac{3\,524\,964\,567\,019\,\beta^{14}}{26\,598\pi}-\frac{87\,139\,490\,962\,162\,\beta^{16}}{226\,083\pi}+\frac{1\,269\,913\,240\,234\,467\,\beta^{18}}{1\,431\,859\pi}-\frac{16\,479\,140\,961\,811\,195\,\beta^{20}}{10\,023\,013\pi}+\frac{104\,398\,406\,424\,358\,925\,\beta^{22}}{41\,914\,418\pi}-\frac{1\,633\,940\,085\,425\,388\,561\,\beta^{24}}{523\,930\,225\pi}+\frac{7\,086\,376\,004\,996\,627\,939\,\beta^{26}}{2\,176\,325\,550\pi}-\frac{25\,737\,622\,747\,692\,674\,461\,\beta^{28}}{9\,016\,205\,850\pi}+\frac{78\,717\,796\,450\,160\,815\,019\,\beta^{30}}{37\,266\,984\,180\pi}-\frac{407\,073\,220\,772\,331\,976\,142\,\beta^{32}}{307\,452\,619\,485\pi}+\frac{445\,997\,461\,656\,163\,039\,274\,\beta^{34}}{632\,990\,687\,175\pi}-\frac{22\,405\,970\,450\,059\,262\,398\,\beta^{36}}{70\,332\,298\,575\pi}+\frac{17\,655\,788\,606\,594\,867\,101\,\beta^{38}}{144\,366\,297\,075\pi}-\frac{1\,148\,388\,713\,685\,450\,878\,\beta^{40}}{28\,873\,259\,415\pi}+\frac{15\,005\,224\,769\,556\,677\,\beta^{42}}{1\,374\,917\,115\pi}-\frac{14\,123\,528\,275\,616\,923\,\beta^{44}}{5\,624\,660\,925\pi}+\frac{234\,833\,295\,462\,991\,\beta^{46}}{489\,100\,950\pi}-\frac{42\,993\,530\,384\,074\,\beta^{48}}{570\,617\,775\pi}+\frac{652\,800\,793\,166\,\beta^{50}}{68\,474\,133\pi}-\frac{4\,994\,229\,050\,\beta^{52}}{5\,267\,241\pi}+\frac{69\,580\,967\,\beta^{54}}{975\,415\pi}-\frac{1\,594\,714\,\beta^{56}}{418\,035\pi}+\frac{1862\,\beta^{58}}{14\,415\pi}-\frac{2\,\beta^{60}}{961\pi}\right)+\frac{2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{31\pi}$$

$G(1,3,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{\beta^2}{\pi}\right)-\frac{2\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

$G(1,5,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{71\,\beta^2}{3\pi}-\frac{4\,\beta^4}{3\pi}\right)+\frac{1}{4}\beta^2\left(\frac{24}{\pi}+\frac{24\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(1,7,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{111\,\beta^2}{\pi}+\frac{105\,\beta^4}{\pi}+\frac{5\,\beta^6}{2\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{48}{\pi}-\frac{240\,\beta^2}{\pi}-\frac{80\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(1,9,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{327\,\beta^2}{\pi}-\frac{17\,779\,\beta^4}{15\,\pi}-\frac{13\,111\,\beta^6}{30\,\pi}-\frac{28\,\beta^8}{5\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{80}{\pi}+\frac{1200\,\beta^2}{\pi}+\frac{1680\,\beta^4}{\pi}+\frac{280\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(1,11,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{757\,\beta^2}{\pi}+\frac{35\,476\,\beta^4}{5\,\pi}+\frac{45\,752\,\beta^6}{5\,\pi}+\frac{8876\,\beta^8}{5\,\pi}+\frac{14\,\beta^{10}}{\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{120}{\pi}-\frac{4200\,\beta^2}{\pi}-\frac{15\,680\,\beta^4}{\pi}-\frac{10\,080\,\beta^6}{\pi}-\frac{1008\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{4523\,\beta^2}{3\,\pi}-\frac{89\,512\,\beta^4}{3\,\pi}-\frac{3\,250\,992\,\beta^6}{35\,\pi}-\frac{2\,095\,124\,\beta^8}{35\,\pi}-\frac{249\,502\,\beta^{10}}{35\,\pi}-\frac{264\,\beta^{12}}{7\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{168}{\pi}+\frac{11\,760\,\beta^2}{\pi}+\frac{94\,080\,\beta^4}{\pi}+\frac{151\,200\,\beta^6}{\pi}+\frac{55\,440\,\beta^8}{\pi}+\frac{3696\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{2707\,\beta^2}{\pi}+\frac{99\,611\,\beta^4}{\pi}+\frac{43\,445\,797\,\beta^6}{70\,\pi}+\frac{32\,388\,543\,\beta^8}{35\,\pi}+\frac{24\,796\,101\,\beta^{10}}{70\,\pi}+\frac{1\,991\,847\,\beta^{12}}{70\,\pi}+\frac{429\,\beta^{14}}{4\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{224}{\pi}-\frac{28\,224\,\beta^2}{\pi}-\frac{423\,360\,\beta^4}{\pi}-\frac{1\,386\,000\,\beta^6}{\pi}-\frac{1\,219\,680\,\beta^8}{\pi}-\frac{288\,288\,\beta^{10}}{\pi}-\frac{13\,728\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{13\,513\,\beta^2}{3\,\pi}-\frac{846\,377\,\beta^4}{3\,\pi}-\frac{31\,315\,867\,\beta^6}{10\,\pi}-\frac{2\,842\,668\,851\,\beta^8}{315\,\pi}-\frac{4\,892\,419\,961\,\beta^{10}}{630\,\pi}-\frac{82\,328\,389\,\beta^{12}}{42\,\pi}-\frac{28\,526\,927\,\beta^{14}}{252\,\pi}-\frac{2860\,\beta^{16}}{9\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{288}{\pi}+\frac{60\,480\,\beta^2}{\pi}+\frac{1\,552\,320\,\beta^4}{\pi}+\frac{9\,147\,600\,\beta^6}{\pi}+\frac{15\,855\,840\,\beta^8}{\pi}+\frac{8\,744\,736\,\beta^{10}}{\pi}+\frac{1\,441\,440\,\beta^{12}}{\pi}+\frac{51\,480\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{21\,211\,\beta^2}{3\,\pi}+\frac{10\,590\,712\,\beta^4}{15\,\pi}+\frac{64\,402\,448\,\beta^6}{5\,\pi}+\frac{6\,743\,266\,244\,\beta^8}{105\,\pi}+\frac{2\,188\,594\,694\,\beta^{10}}{21\,\pi}+\frac{405\,491\,372\,\beta^{12}}{7\,\pi}+\frac{1\,085\,679\,452\,\beta^{14}}{105\,\pi}+\frac{47\,195\,434\,\beta^{16}}{105\,\pi}+\frac{4862\,\beta^{18}}{5\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{360}{\pi}-\frac{118\,800\,\beta^2}{\pi}-\frac{4\,878\,720\,\beta^4}{\pi}-\frac{47\,567\,520\,\beta^6}{\pi}-\frac{144\,288\,144\,\beta^8}{\pi}-\frac{153\,032\,880\,\beta^{10}}{\pi}-\frac{57\,657\,600\,\beta^{12}}{\pi}-\frac{7\,001\,280\,\beta^{14}}{\pi}-\frac{194\,480\,\beta^{16}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{10\,597\,\beta^2}{\pi}-\frac{1\,603\,924\,\beta^4}{\pi}-\frac{45\,307\,496\,\beta^6}{\pi}-\frac{2\,535\,376\,636\,\beta^8}{7\,\pi}-\frac{689\,985\,740\,834\,\beta^{10}}{693\,\pi}-\frac{101\,452\,185\,796\,\beta^{12}}{99\,\pi}-\frac{65\,432\,041\,064\,\beta^{14}}{165\,\pi}-\frac{182\,328\,486\,938\,\beta^{16}}{3465\,\pi}-\frac{6\,177\,048\,124\,\beta^{18}}{3465\,\pi}-\frac{33\,592\,\beta^{20}}{11\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{440}{\pi}+\frac{217\,800\,\beta^2}{\pi}+\frac{13\,590\,720\,\beta^4}{\pi}+\frac{206\,125\,920\,\beta^6}{\pi}+\frac{1\,010\,017\,008\,\beta^8}{\pi}+\frac{1\,836\,394\,560\,\beta^{10}}{\pi}+\frac{1\,306\,905\,600\,\beta^{12}}{\pi}+\frac{357\,065\,280\,\beta^{14}}{\pi}+\frac{33\,256\,080\,\beta^{16}}{\pi}+\frac{739\,024\,\beta^{18}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{45\,893\,\beta^2}{3\,\pi}+\frac{10\,111\,231\,\beta^4}{3\,\pi}+\frac{1\,407\,735\,381\,\beta^6}{10\,\pi}+\frac{179\,119\,567\,796\,\beta^8}{105\,\pi}+\frac{2\,841\,884\,173\,336\,\beta^{10}}{385\,\pi}+\frac{975\,165\,990\,032\,\beta^{12}}{77\,\pi}+\frac{689\,039\,772\,304\,\beta^{14}}{77\,\pi}+\frac{2\,937\,358\,667\,932\,\beta^{16}}{1155\,\pi}+\frac{14\,324\,325\,834\,\beta^{18}}{55\,\pi}+\frac{1\,165\,869\,146\,\beta^{20}}{165\,\pi}+\frac{29\,393\,\beta^{22}}{3\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{528}{\pi}-\frac{377\,520\,\beta^2}{\pi}-\frac{34\,354\,320\,\beta^4}{\pi}-\frac{772\,972\,200\,\beta^6}{\pi}-\frac{5\,771\,525\,760\,\beta^8}{\pi}-\frac{16\,649\,977\,344\,\beta^{10}}{\pi}-\frac{19\,995\,655\,680\,\beta^{12}}{\pi}-\frac{10\,176\,360\,480\,\beta^{14}}{\pi}-\frac{2\,106\,218\,400\,\beta^{16}}{\pi}-\frac{155\,195\,040\,\beta^{18}}{\pi}-\frac{2\,821\,728\,\beta^{20}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{21\,407\,\beta^2}{\pi}-\frac{6\,642\,097\,\beta^4}{\pi}-\frac{3\,953\,387\,713\,\beta^6}{10\,\pi}-\frac{730\,185\,288\,712\,\beta^8}{105\,\pi}-\frac{1\,570\,909\,037\,184\,\beta^{10}}{35\,\pi}-\frac{1\,794\,330\,181\,109\,912\,\beta^{12}}{15\,015\,\pi}-\frac{1\,252\,205\,659\,977\,284\,\beta^{14}}{9009\,\pi}-\frac{459\,006\,219\,696\,092\,\beta^{16}}{6435\,\pi}-\frac{11\,078\,173\,204\,134\,\beta^{18}}{715\,\pi}-\frac{8\,113\,130\,066\,666\,\beta^{20}}{6435\,\pi}-\frac{180\,158\,175\,427\,\beta^{22}}{6435\,\pi}-\frac{416\,024\,\beta^{24}}{13\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{624}{\pi}+\frac{624\,624\,\beta^2}{\pi}+\frac{80\,160\,080\,\beta^4}{\pi}+\frac{2\,576\,574\,000\,\beta^6}{\pi}+\frac{28\,033\,125\,120\,\beta^8}{\pi}+\frac{121\,306\,977\,792\,\beta^{10}}{\pi}+\frac{227\,950\,474\,752\,\beta^{12}}{\pi}+\frac{193\,350\,849\,120\,\beta^{14}}{\pi}+\frac{73\,717\,644\,000\,\beta^{16}}{\pi}+\frac{11\,950\,018\,080\,\beta^{18}}{\pi}+\frac{713\,897\,184\,\beta^{20}}{\pi}+\frac{10\,816\,624\,\beta^{22}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(1,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{29\,181\,\beta^2}{\pi}+\frac{37\,211\,156\,\beta^4}{3\,\pi}+\frac{107\,173\,283\,888\,\beta^6}{105\,\pi}+\frac{881\,144\,698\,632\,\beta^8}{35\,\pi}+\frac{73\,244\,384\,492\,684\,\beta^{10}}{315\,\pi}+\frac{8\,214\,415\,022\,490\,844\,\beta^{12}}{9009\,\pi}+\frac{698\,098\,929\,170\,528\,\beta^{14}}{429\,\pi}+\frac{8\,756\,643\,093\,158\,614\,\beta^{16}}{6435\,\pi}+\frac{3\,403\,706\,443\,431\,128\,\beta^{18}}{6435\,\pi}+\frac{1\,359\,914\,923\,299\,536\,\beta^{20}}{15\,015\,\pi}+\frac{53\,999\,690\,665\,904\,\beta^{22}}{9009\,\pi}+\frac{999\,208\,077\,580\,\beta^{24}}{9009\,\pi}+\frac{742\,900\,\beta^{26}}{7\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{728}{\pi}-\frac{993\,720\,\beta^2}{\pi}-\frac{174\,894\,720\,\beta^4}{\pi}-\frac{7\,786\,979\,200\,\beta^6}{\pi}-\frac{119\,140\,781\,760\,\beta^8}{\pi}-\frac{740\,839\,042\,944\,\beta^{10}}{\pi}-\frac{2\,062\,409\,057\,280\,\beta^{12}}{\pi}-\frac{2\,706\,911\,887\,680\,\beta^{14}}{\pi}-\frac{1\,702\,877\,576\,400\,\beta^{16}}{\pi}-\frac{503\,892\,429\,040\,\beta^{18}}{\pi}-\frac{65\,678\,540\,928\,\beta^{20}}{\pi}-\frac{3\,244\,987\,200\,\beta^{22}}{\pi}-\frac{41\,602\,400\,\beta^{24}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(1,29,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{38\,897\,\beta^2}{\pi}-\frac{22\,126\,000\,\beta^4}{\pi}-\frac{17\,180\,278\,336\,\beta^6}{7\,\pi}-\frac{1\,732\,663\,024\,664\,\beta^8}{21\,\pi}-\frac{7\,385\,323\,659\,636\,\beta^{10}}{7\,\pi}-\frac{1\,352\,167\,012\,814\,164\,\beta^{12}}{231\,\pi}-\frac{98\,001\,484\,521\,951\,676\,\beta^{14}}{6435\,\pi}-\frac{124\,594\,364\,424\,936\,902\,\beta^{16}}{6435\,\pi}-\frac{8\,695\,923\,009\,391\,494\,\beta^{18}}{715\,\pi}-\frac{33\,322\,747\,472\,035\,768\,\beta^{20}}{9009\,\pi}-\frac{4\,610\,030\,283\,371\,000\,\beta^{22}}{9009\,\pi}-\frac{28\,099\,699\,422\,412\,\beta^{24}}{1001\,\pi}-\frac{439\,820\,394\,504\,\beta^{26}}{1001\,\pi}-\frac{356\,592\,\beta^{28}}{\pi}\right)+\frac{1}{4}\beta^2\left(\frac{840}{\pi}+\frac{1\,528\,800\,\beta^2}{\pi}+\frac{360\,389\,120\,\beta^4}{\pi}+\frac{21\,661\,960\,320\,\beta^6}{\pi}+\frac{452\,734\,970\,688\,\beta^8}{\pi}+\frac{3\,909\,983\,837\,760\,\beta^{10}}{\pi}+\frac{15\,468\,067\,929\,600\,\beta^{12}}{\pi}+\frac{29\,776\,030\,764\,480\,\beta^{14}}{\pi}+\frac{28\,721\,868\,455\,280\,\beta^{16}}{\pi}+\frac{13\,907\,431\,041\,504\,\beta^{18}}{\pi}+\frac{3\,283\,927\,046\,400\,\beta^{20}}{\pi}+\frac{351\,540\,280\,000\,\beta^{22}}{\pi}+\frac{14\,602\,442\,400\,\beta^{24}}{\pi}+\frac{160\,466\,400\,\beta^{26}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(1,31,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{152\,561\,\beta^2}{3\,\pi}+\frac{569\,113\,097\,\beta^4}{15\,\pi}+\frac{55\,522\,787\,151\,\beta^6}{10\,\pi}+\frac{26\,084\,899\,146\,839\,\beta^8}{105\,\pi}+\frac{59\,929\,999\,448\,111\,\beta^{10}}{14\,\pi}+\frac{5\,012\,194\,759\,986\,979\,\beta^{12}}{154\,\pi}+\frac{216\,039\,302\,360\,311\,793\,\beta^{14}}{1820\,\pi}+\frac{467\,961\,803\,740\,309\,741\,\beta^{16}}{2145\,\pi}+\frac{295\,661\,765\,361\,589\,257\,\beta^{18}}{1430\,\pi}+\frac{86\,581\,718\,328\,969\,335\,\beta^{20}}{858\,\pi}+\frac{22\,767\,321\,193\,596\,625\,\beta^{22}}{924\,\pi}+\frac{5\,625\,435\,414\,643\,641\,\beta^{24}}{2002\,\pi}+\frac{519\,774\,639\,498\,799\,\beta^{26}}{4004\,\pi}+\frac{6\,969\,800\,085\,797\,\beta^{28}}{4004\,\pi}+\frac{9\,694\,845\,\beta^{30}}{8\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{960}{\pi}-\frac{2\,284\,800\,\beta^2}{\pi}-\frac{706\,917\,120\,\beta^4}{\pi}-\frac{56\,124\,169\,920\,\beta^6}{\pi}-\frac{1\,563\,993\,535\,104\,\beta^8}{\pi}-\frac{18\,246\,591\,242\,880\,\beta^{10}}{\pi}-\frac{99\,253\,435\,881\,600\,\beta^{12}}{\pi}-\frac{269\,047\,706\,550\,480\,\beta^{14}}{\pi}-\frac{377\,487\,413\,983\,680\,\beta^{16}}{\pi}-\frac{278\,148\,620\,830\,080\,\beta^{18}}{\pi}-\frac{106\,727\,629\,008\,000\,\beta^{20}}{\pi}-\frac{20\,565\,106\,380\,000\,\beta^{22}}{\pi}-\frac{1\,839\,907\,742\,400\,\beta^{24}}{\pi}-\frac{65\,149\,358\,400\,\beta^{26}}{\pi}-\frac{620\,470\,080\,\beta^{28}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,5,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{7\,\beta^2}{\pi}-\frac{5\,\beta^4}{3\,\pi}+\frac{\beta^6}{6\,\pi}\right)-\frac{4\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(3,7,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{73\,\beta^2}{\pi}-\frac{338\,\beta^4}{15\,\pi}+\frac{44\,\beta^6}{15\,\pi}-\frac{\beta^8}{5\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{40}{\pi}+\frac{120\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,9,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{2345\,\beta^2}{9\,\pi}+\frac{5998\,\beta^4}{9\,\pi}+\frac{1168\,\beta^6}{15\,\pi}-\frac{287\,\beta^8}{45\,\pi}+\frac{14\,\beta^{10}}{45\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{72}{\pi}-\frac{840\,\beta^2}{\pi}-\frac{2240\,\beta^4}{3\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,11,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{655\,\beta^2}{\pi}-\frac{15\,271\,\beta^4}{3\,\pi}-\frac{991\,367\,\beta^6}{210\,\pi}-\frac{9724\,\beta^8}{35\,\pi}+\frac{548\,\beta^{10}}{35\,\pi}-\frac{4\,\beta^{12}}{7\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{112}{\pi}+\frac{3360\,\beta^2}{\pi}+\frac{10\,080\,\beta^4}{\pi}+\frac{4200\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{1363\,\beta^2}{\pi}+\frac{358\,781\,\beta^4}{15\,\pi}+\frac{1\,879\,739\,\beta^6}{30\,\pi}+\frac{1\,022\,349\,\beta^8}{35\,\pi}+\frac{14\,155\,\beta^{10}}{14\,\pi}-\frac{583\,\beta^{12}}{14\,\pi}+\frac{33\,\beta^{14}}{28\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{160}{\pi}-\frac{10\,080\,\beta^2}{\pi}-\frac{70\,560\,\beta^4}{\pi}-\frac{92\,400\,\beta^6}{\pi}-\frac{22\,176\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{22\,613\,\beta^2}{9\,\pi}-\frac{764\,518\,\beta^4}{9\,\pi}-\frac{7\,115\,966\,\beta^6}{15\,\pi}-\frac{566\,215\,091\,\beta^8}{945\,\pi}-\frac{157\,016\,728\,\beta^{10}}{945\,\pi}-\frac{235\,037\,\beta^{12}}{63\,\pi}+\frac{22\,165\,\beta^{14}}{189\,\pi}-\frac{143\,\beta^{16}}{54\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{216}{\pi}+\frac{25\,200\,\beta^2}{\pi}+\frac{344\,960\,\beta^4}{\pi}+\frac{997\,920\,\beta^6}{\pi}+\frac{720\,720\,\beta^8}{\pi}+\frac{112\,112\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{4253\,\beta^2}{\pi}+\frac{3\,750\,634\,\beta^4}{15\,\pi}+\frac{269\,883\,626\,\beta^6}{105\,\pi}+\frac{233\,641\,881\,\beta^8}{35\,\pi}+\frac{307\,576\,676\,\beta^{10}}{63\,\pi}+\frac{56\,228\,029\,\beta^{12}}{63\,\pi}+\frac{208\,637\,\beta^{14}}{15\,\pi}-\frac{31\,031\,\beta^{16}}{90\,\pi}+\frac{286\,\beta^{18}}{45\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{280}{\pi}-\frac{55\,440\,\beta^2}{\pi}-\frac{1\,330\,560\,\beta^4}{\pi}-\frac{7\,207\,200\,\beta^6}{\pi}-\frac{11\,099\,088\,\beta^8}{\pi}-\frac{5\,045\,040\,\beta^{10}}{\pi}-\frac{549\,120\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{6755\,\beta^2}{\pi}-\frac{1\,926\,353\,\beta^4}{3\,\pi}-\frac{331\,845\,907\,\beta^6}{30\,\pi}-\frac{1\,795\,538\,193\,\beta^8}{35\,\pi}-\frac{521\,571\,591\,697\,\beta^{10}}{6930\,\pi}-\frac{49\,361\,007\,943\,\beta^{12}}{1386\,\pi}-\frac{4\,249\,764\,389\,\beta^{14}}{924\,\pi}-\frac{25\,876\,396\,\beta^{16}}{495\,\pi}+\frac{518\,908\,\beta^{18}}{495\,\pi}-\frac{884\,\beta^{20}}{55\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{352}{\pi}+\frac{110\,880\,\beta^2}{\pi}+\frac{4\,324\,320\,\beta^4}{\pi}+\frac{39\,639\,600\,\beta^6}{\pi}+\frac{110\,990\,880\,\beta^8}{\pi}+\frac{104\,936\,832\,\beta^{10}}{\pi}+\frac{32\,672\,640\,\beta^{12}}{\pi}+\frac{2\,625\,480\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(3,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{91\,895\,\beta^2}{9\,\pi}+\frac{13\,369\,549\,\beta^4}{9\,\pi}+\frac{1\,203\,869\,737\,\beta^6}{30\,\pi}+\frac{31\,919\,343\,404\,\beta^8}{105\,\pi}+\frac{81\,833\,502\,452\,\beta^{10}}{105\,\pi}+\frac{167\,829\,306\,476\,\beta^{12}}{231\,\pi}+\frac{2\,635\,192\,456\,\beta^{14}}{11\,\pi}+\frac{26\,529\,017\,684\,\beta^{16}}{1155\,\pi}+\frac{32\,627\,114\,\beta^{18}}{165\,\pi}-\frac{1\,620\,814\,\beta^{20}}{495\,\pi}+\frac{4199\,\beta^{22}}{99\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{432}{\pi}-\frac{205\,920\,\beta^2}{\pi}-\frac{12\,332\,320\,\beta^4}{\pi}-\frac{178\,378\,200\,\beta^6}{\pi}-\frac{824\,503\,680\,\beta^8}{\pi}-\frac{1\,387\,498\,112\,\beta^{10}}{\pi}-\frac{882\,161\,280\,\beta^{12}}{\pi}-\frac{199\,536\,480\,\beta^{14}}{\pi}-\frac{36\,951\,200\,\beta^{16}}{3\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(3,23,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{14\,833\,\beta^2}{\pi}-\frac{9\,490\,714\,\beta^4}{3\,\pi}-\frac{382\,416\,536\,\beta^6}{3\,\pi}-\frac{10\,370\,042\,483\,\beta^8}{7\,\pi}-\frac{383\,543\,521\,934\,\beta^{10}}{63\,\pi}-\frac{87\,911\,083\,367\,204\,\beta^{12}}{9009\,\pi}-\frac{93\,876\,199\,077\,568\,\beta^{14}}{15\,015\,\pi}-\frac{9\,746\,879\,171\,914\,\beta^{16}}{6435\,\pi}-\frac{720\,220\,297\,892\,\beta^{18}}{6435\,\pi}-\frac{107\,526\,700\,\beta^{20}}{143\,\pi}+\frac{4\,485\,824\,\beta^{22}}{429\,\pi}-\frac{4522\,\beta^{24}}{39\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{520}{\pi}+\frac{360\,360\,\beta^2}{\pi}+\frac{31\,711\,680\,\beta^4}{\pi}+\frac{687\,086\,400\,\beta^6}{\pi}+\frac{4\,905\,796\,896\,\beta^8}{\pi}+\frac{13\,379\,446\,080\,\beta^{10}}{\pi}+\frac{14\,898\,723\,840\,\beta^{12}}{\pi}+\frac{6\,784\,240\,320\,\beta^{14}}{\pi}+\frac{1\,163\,962\,800\,\beta^{16}}{\pi}+\frac{56\,904\,848\,\beta^{18}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(3,25,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{20\,857\,\beta^2}{\pi}+\frac{18\,893\,578\,\beta^4}{3\,\pi}+\frac{38\,211\,916\,276\,\beta^6}{105\,\pi}+\frac{216\,651\,895\,799\,\beta^8}{35\,\pi}+\frac{133\,009\,645\,825\,988\,\beta^{10}}{3465\,\pi}+\frac{67\,367\,661\,974\,996\,\beta^{12}}{693\,\pi}+\frac{45\,366\,884\,178\,328\,\beta^{14}}{429\,\pi}+\frac{316\,898\,610\,506\,458\,\beta^{16}}{6435\,\pi}+\frac{58\,687\,344\,221\,096\,\beta^{18}}{6435\,\pi}+\frac{8\,028\,771\,440\,252\,\beta^{20}}{15\,015\,\pi}+\frac{784\,034\,696\,\beta^{22}}{273\,\pi}-\frac{9\,286\,250\,\beta^{24}}{273\,\pi}+\frac{29\,716\,\beta^{26}}{91\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{616}{\pi}-\frac{600\,600\,\beta^2}{\pi}-\frac{74\,954\,880\,\beta^4}{\pi}-\frac{2\,336\,093\,760\,\beta^6}{\pi}-\frac{24\,528\,984\,480\,\beta^8}{\pi}-\frac{101\,683\,790\,208\,\beta^{10}}{\pi}-\frac{180\,913\,075\,200\,\beta^{12}}{\pi}-\frac{142\,469\,046\,720\,\beta^{14}}{\pi}-\frac{48\,653\,645\,040\,\beta^{16}}{\pi}-\frac{6\,544\,057\,520\,\beta^{18}}{\pi}-\frac{259\,598\,976\,\beta^{20}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(3,27,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{256\,847\,\beta^2}{9\,\pi}-\frac{106\,681\,945\,\beta^4}{9\,\pi}-\frac{5\,709\,025\,081\,\beta^6}{6\,\pi}-\frac{22\,828\,686\,936\,\beta^8}{\pi}-\frac{612\,606\,502\,744\,\beta^{10}}{3\,\pi}-\frac{25\,422\,301\,701\,008\,\beta^{12}}{33\,\pi}-\frac{25\,270\,935\,650\,703\,796\,\beta^{14}}{19\,305\,\pi}-\frac{19\,780\,152\,230\,883\,452\,\beta^{16}}{19\,305\,\pi}-\frac{2\,326\,754\,387\,327\,402\,\beta^{18}}{6435\,\pi}-\frac{203\,804\,856\,314\,050\,\beta^{20}}{3861\,\pi}-\frac{67\,935\,325\,348\,733\,\beta^{22}}{27\,027\,\pi}-\frac{3\,005\,654\,536\,\beta^{24}}{273\,\pi}+\frac{92\,060\,168\,\beta^{26}}{819\,\pi}-\frac{59\,432\,\beta^{28}}{63\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{720}{\pi}+\frac{960\,960\,\beta^2}{\pi}+\frac{495\,535\,040\,\beta^4}{3\,\pi}+\frac{7\,167\,560\,400\,\beta^6}{\pi}+\frac{106\,525\,875\,456\,\beta^8}{\pi}+\frac{640\,231\,271\,680\,\beta^{10}}{\pi}+\frac{1\,709\,628\,560\,640\,\beta^{12}}{\pi}+\frac{2\,126\,859\,340\,320\,\beta^{14}}{\pi}+\frac{1\,243\,370\,928\,800\,\beta^{16}}{\pi}+\frac{329\,820\,499\,008\,\beta^{18}}{\pi}+\frac{35\,694\,859\,200\,\beta^{20}}{\pi}+\frac{3\,515\,402\,800\,\beta^{22}}{3\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(3,29,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{38\,155\,\beta^2}{\pi}+\frac{63\,829\,453\,\beta^4}{3\,\pi}+\frac{69\,320\,166\,047\,\beta^6}{30\,\pi}+\frac{379\,477\,829\,369\,\beta^8}{5\,\pi}+\frac{85\,075\,472\,130\,071\,\beta^{10}}{90\,\pi}+\frac{13\,088\,640\,902\,822\,179\,\beta^{12}}{2574\,\pi}+\frac{21\,861\,046\,519\,527\,001\,\beta^{14}}{1716\,\pi}+\frac{99\,306\,584\,728\,011\,853\,\beta^{16}}{6435\,\pi}+\frac{10\,621\,645\,311\,636\,137\,\beta^{18}}{1170\,\pi}+\frac{10\,756\,735\,658\,913\,577\,\beta^{20}}{4290\,\pi}+\frac{3\,552\,120\,054\,843\,247\,\beta^{22}}{12\,012\,\pi}+\frac{70\,013\,922\,908\,905\,\beta^{24}}{6006\,\pi}+\frac{1\,185\,542\,107\,\beta^{26}}{28\,\pi}-\frac{10\,541\,751\,\beta^{28}}{28\,\pi}+\frac{22\,287\,\beta^{30}}{8\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{832}{\pi}-\frac{1\,485\,120\,\beta^2}{\pi}-\frac{343\,062\,720\,\beta^4}{\pi}-\frac{20\,175\,355\,200\,\beta^6}{\pi}-\frac{411\,577\,246\,080\,\beta^8}{\pi}-\frac{3\,457\,248\,867\,072\,\beta^{10}}{\pi}-\frac{13\,233\,791\,450\,880\,\beta^{12}}{\pi}-\frac{24\,458\,882\,413\,680\,\beta^{14}}{\pi}-\frac{22\,380\,676\,718\,400\,\beta^{16}}{\pi}-\frac{10\,077\,848\,580\,800\,\beta^{18}}{\pi}-\frac{2\,134\,552\,580\,160\,\beta^{20}}{\pi}-\frac{189\,831\,751\,200\,\beta^{22}}{\pi}-\frac{5\,241\,902\,400\,\beta^{24}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(3,31,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{50\,005\,\beta^2}{\pi}-\frac{110\,002\,498\,\beta^4}{3\,\pi}-\frac{553\,222\,761\,622\,\beta^6}{105\,\pi}-\frac{8\,089\,205\,856\,433\,\beta^8}{35\,\pi}-\frac{1\,227\,089\,088\,618\,406\,\beta^{10}}{315\,\pi}-\frac{20\,011\,363\,137\,625\,049\,\beta^{12}}{693\,\pi}-\frac{43\,841\,314\,796\,044\,379\,\beta^{14}}{429\,\pi}-\frac{39\,597\,599\,862\,410\,686\,297\,\beta^{16}}{218\,790\,\pi}-\frac{17\,887\,868\,385\,556\,096\,372\,\beta^{18}}{109\,395\,\pi}-\frac{6\,361\,813\,776\,999\,110\,383\,\beta^{20}}{85\,085\,\pi}-\frac{846\,606\,836\,077\,603\,325\,\beta^{22}}{51\,051\,\pi}-\frac{164\,581\,520\,229\,959\,285\,\beta^{24}}{102\,102\,\pi}-\frac{909\,508\,839\,386\,253\,\beta^{26}}{17\,017\,\pi}-\frac{5\,551\,530\,447\,\beta^{28}}{34\,\pi}+\frac{43\,379\,679\,\beta^{30}}{34\,\pi}-\frac{570\,285\,\beta^{32}}{68\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{952}{\pi}+\frac{2\,227\,680\,\beta^2}{\pi}+\frac{677\,214\,720\,\beta^4}{\pi}+\frac{52\,766\,313\,600\,\beta^6}{\pi}+\frac{1\,440\,520\,361\,280\,\beta^8}{\pi}+\frac{16\,421\,932\,118\,592\,\beta^{10}}{\pi}+\frac{86\,964\,915\,248\,640\,\beta^{12}}{\pi}+\frac{228\,282\,902\,527\,680\,\beta^{14}}{\pi}+\frac{307\,734\,304\,878\,000\,\beta^{16}}{\pi}+\frac{215\,234\,051\,832\,800\,\beta^{18}}{\pi}+\frac{76\,843\,892\,885\,760\,\beta^{20}}{\pi}+\frac{13\,288\,222\,584\,000\,\beta^{22}}{\pi}+\frac{988\,098\,602\,400\,\beta^{24}}{\pi}+\frac{23\,267\,628\,000\,\beta^{26}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

$G(5,7,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{55\,\beta^2}{3\,\pi}-\frac{34\,\beta^4}{3\,\pi}+\frac{22\,\beta^6}{5\,\pi}-\frac{13\,\beta^8}{15\,\pi}+\frac{\beta^{10}}{15\,\pi}\right)-\frac{6\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

$G(5,9,0;\beta\}$

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{149\,\beta^2}{\pi}-\frac{334\,\beta^4}{3\,\pi}+\frac{3662\,\beta^6}{105\,\pi}-\frac{303\,\beta^8}{35\,\pi}+\frac{131\,\beta^{10}}{105\,\pi}-\frac{8\,\beta^{12}}{105\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{56}{\pi}+\frac{336\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,11,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{1417\,\beta^2}{3\,\pi}+\frac{6929\,\beta^4}{3\,\pi}+\frac{6221\,\beta^6}{10\,\pi}-\frac{12\,361\,\beta^8}{105\,\pi}+\frac{4223\,\beta^{10}}{210\,\pi}-\frac{153\,\beta^{12}}{70\,\pi}+\frac{3\,\beta^{14}}{28\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{96}{\pi}-\frac{2016\,\beta^2}{\pi}-\frac{3360\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{1095\,\beta^2}{\pi}-\frac{14\,657\,\beta^4}{\pi}-\frac{248\,939\,\beta^6}{10\,\pi}-\frac{1\,027\,762\,\beta^8}{315\,\pi}+\frac{130\,534\,\beta^{10}}{315\,\pi}-\frac{1084\,\beta^{12}}{21\,\pi}+\frac{275\,\beta^{14}}{63\,\pi}-\frac{11\,\beta^{16}}{63\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{144}{\pi}+\frac{7200\,\beta^2}{\pi}+\frac{36\,960\,\beta^4}{\pi}+\frac{27\,720\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{2145\,\beta^2}{\pi}+\frac{4\,528\,862\,\beta^4}{75\,\pi}+\frac{19\,736\,464\,\beta^6}{75\,\pi}+\frac{38\,146\,653\,\beta^8}{175\,\pi}+\frac{5\,156\,447\,\beta^{10}}{315\,\pi}-\frac{470\,723\,\beta^{12}}{315\,\pi}+\frac{74\,426\,\beta^{14}}{525\,\pi}-\frac{30\,173\,\beta^{16}}{3150\,\pi}+\frac{143\,\beta^{18}}{450\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{200}{\pi}-\frac{19\,800\,\beta^2}{\pi}-\frac{221\,760\,\beta^4}{\pi}-\frac{480\,480\,\beta^6}{\pi}-\frac{1\,009\,008\,\beta^8}{5\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{11\,315\,\beta^2}{3\,\pi}-\frac{581\,902\,\beta^4}{3\,\pi}-\frac{8\,441\,544\,\beta^6}{5\,\pi}-\frac{363\,269\,243\,\beta^8}{105\,\pi}-\frac{1\,925\,366\,419\,\beta^{10}}{1155\,\pi}-\frac{6\,124\,747\,\beta^{12}}{77\,\pi}+\frac{421\,642\,\beta^{14}}{77\,\pi}-\frac{134\,953\,\beta^{16}}{330\,\pi}+\frac{2483\,\beta^{18}}{110\,\pi}-\frac{104\,\beta^{20}}{165\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{264}{\pi}+\frac{46\,200\,\beta^2}{\pi}+\frac{960\,960\,\beta^4}{\pi}+\frac{4\,324\,320\,\beta^6}{\pi}+\frac{5\,045\,040\,\beta^8}{\pi}+\frac{1\,345\,344\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{18\,437\,\beta^2}{3\,\pi}+\frac{1\,581\,403\,\beta^4}{3\,\pi}+\frac{563\,051\,589\,\beta^6}{70\,\pi}+\frac{3\,346\,776\,758\,\beta^8}{105\,\pi}+\frac{3\,897\,215\,498\,\beta^{10}}{105\,\pi}+\frac{4\,461\,207\,712\,\beta^{12}}{385\,\pi}+\frac{12\,452\,245\,\beta^{14}}{33\,\pi}-\frac{1\,116\,453\,\beta^{16}}{55\,\pi}+\frac{67\,366\,\beta^{18}}{55\,\pi}-\frac{3094\,\beta^{20}}{55\,\pi}+\frac{221\,\beta^{22}}{165\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{336}{\pi}-\frac{96\,096\,\beta^2}{\pi}-\frac{3\,363\,360\,\beta^4}{\pi}-\frac{27\,027\,000\,\beta^6}{\pi}-\frac{63\,423\,360\,\beta^8}{\pi}-\frac{45\,741\,696\,\beta^{10}}{\pi}-\frac{8\,401\,536\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{9459\,\beta^2}{\pi}-\frac{3\,804\,473\,\beta^4}{3\,\pi}-\frac{936\,304\,111\,\beta^6}{30\,\pi}-\frac{7\,383\,285\,201\,\beta^8}{35\,\pi}-\frac{292\,678\,067\,233\,\beta^{10}}{630\,\pi}-\frac{31\,072\,841\,434\,333\,\beta^{12}}{90\,090\,\pi}-\frac{901\,276\,412\,203\,\beta^{14}}{12\,012\,\pi}-\frac{11\,306\,725\,844\,\beta^{16}}{6435\,\pi}+\frac{488\,528\,048\,\beta^{18}}{6435\,\pi}-\frac{2\,702\,048\,\beta^{20}}{715\,\pi}+\frac{314\,602\,\beta^{22}}{2145\,\pi}-\frac{1292\,\beta^{24}}{429\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{416}{\pi}+\frac{183\,456\,\beta^2}{\pi}+\frac{10\,090\,080\,\beta^4}{\pi}+\frac{132\,132\,000\,\beta^6}{\pi}+\frac{539\,098\,560\,\beta^8}{\pi}+\frac{764\,539\,776\,\beta^{10}}{\pi}+\frac{372\,468\,096\,\beta^{12}}{\pi}+\frac{49\,884\,120\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{13\,925\,\beta^2}{\pi}+\frac{2\,778\,234\,\beta^4}{\pi}+\frac{3\,637\,841\,038\,\beta^6}{35\,\pi}+\frac{116\,228\,744\,573\,\beta^8}{105\,\pi}+\frac{428\,104\,995\,289\,\beta^{10}}{105\,\pi}+\frac{433\,695\,407\,724\,\beta^{12}}{77\,\pi}+\frac{1\,235\,416\,364\,516\,\beta^{14}}{429\,\pi}+\frac{986\,545\,004\,462\,\beta^{16}}{2145\,\pi}+\frac{5\,763\,707\,778\,\beta^{18}}{715\,\pi}-\frac{4\,293\,126\,076\,\beta^{20}}{15\,015\,\pi}+\frac{35\,869\,796\,\beta^{22}}{3003\,\pi}-\frac{397\,290\,\beta^{24}}{1001\,\pi}+\frac{646\,\beta^{26}}{91\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{504}{\pi}-\frac{327\,600\,\beta^2}{\pi}-\frac{26\,906\,880\,\beta^4}{\pi}-\frac{539\,098\,560\,\beta^6}{\pi}-\frac{3\,504\,140\,640\,\beta^8}{\pi}-\frac{8\,473\,649\,184\,\beta^{10}}{\pi}-\frac{7\,981\,459\,200\,\beta^{12}}{\pi}-\frac{2\,793\,510\,720\,\beta^{14}}{\pi}-\frac{284\,524\,240\,\beta^{16}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{59\,335\,\beta^2}{3\,\pi}-\frac{423\,694\,862\,\beta^4}{75\,\pi}-\frac{7\,680\,253\,238\,\beta^6}{25\,\pi}-\frac{365\,615\,523\,887\,\beta^8}{75\,\pi}-\frac{83\,426\,619\,881\,\beta^{10}}{3\,\pi}-\frac{2\,089\,177\,256\,212\,\beta^{12}}{33\,\pi}-\frac{637\,982\,433\,947\,228\,\beta^{14}}{10\,725\,\pi}-\frac{237\,356\,558\,904\,566\,\beta^{16}}{10\,725\,\pi}-\frac{28\,945\,965\,766\,778\,\beta^{18}}{10\,725\,\pi}-\frac{78\,373\,015\,868\,\beta^{20}}{2145\,\pi}+\frac{1\,250\,887\,268\,\beta^{22}}{1155\,\pi}-\frac{87\,625\,378\,\beta^{24}}{2275\,\pi}+\frac{7\,562\,722\,\beta^{26}}{6825\,\pi}-\frac{118\,864\,\beta^{28}}{6825\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{600}{\pi}+\frac{554\,400\,\beta^2}{\pi}+\frac{65\,345\,280\,\beta^4}{\pi}+\frac{1\,911\,349\,440\,\beta^6}{\pi}+\frac{93\,210\,141\,024\,\beta^8}{5\,\pi}+\frac{70\,613\,743\,200\,\beta^{10}}{\pi}+\frac{111\,740\,428\,800\,\beta^{12}}{\pi}+\frac{74\,626\,643\,520\,\beta^{14}}{\pi}+\frac{19\,632\,172\,560\,\beta^{16}}{\pi}+\frac{7\,852\,869\,024\,\beta^{18}}{5\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{27\,275\,\beta^2}{\pi}+\frac{32\,423\,437\,\beta^4}{3\,\pi}+\frac{24\,739\,398\,899\,\beta^6}{30\,\pi}+\frac{93\,464\,227\,553\,\beta^8}{5\,\pi}+\frac{154\,926\,610\,842\,467\,\beta^{10}}{990\,\pi}+\frac{107\,809\,926\,180\,401\,\beta^{12}}{198\,\pi}+\frac{476\,724\,487\,950\,573\,\beta^{14}}{572\,\pi}+\frac{3\,631\,213\,800\,284\,531\,\beta^{16}}{6435\,\pi}+\frac{2\,048\,867\,568\,904\,709\,\beta^{18}}{12\,870\,\pi}+\frac{65\,570\,948\,223\,919\,\beta^{20}}{4290\,\pi}+\frac{13\,771\,447\,703\,\beta^{22}}{84\,\pi}-\frac{2\,250\,504\,115\,\beta^{24}}{546\,\pi}+\frac{45\,978\,081\,\beta^{26}}{364\,\pi}-\frac{3\,469\,343\,\beta^{28}}{1092\,\pi}+\frac{7429\,\beta^{30}}{168\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{704}{\pi}-\frac{897\,600\,\beta^2}{\pi}-\frac{147\,026\,880\,\beta^4}{\pi}-\frac{6\,052\,606\,560\,\beta^6}{\pi}-\frac{84\,736\,491\,840\,\beta^8}{\pi}-\frac{474\,524\,354\,304\,\beta^{10}}{\pi}-\frac{1\,160\,858\,899\,200\,\beta^{12}}{\pi}-\frac{1\,287\,309\,600\,720\,\beta^{14}}{\pi}-\frac{639\,447\,906\,240\,\beta^{16}}{\pi}-\frac{130\,881\,150\,400\,\beta^{18}}{\pi}-\frac{8\,436\,966\,720\,\beta^{20}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{110\,077\,\beta^2}{3\,\pi}-\frac{58\,951\,463\,\beta^4}{3\,\pi}-\frac{20\,440\,810\,247\,\beta^6}{10\,\pi}-\frac{960\,419\,412\,874\,\beta^8}{15\,\pi}-\frac{11\,332\,463\,991\,544\,\beta^{10}}{15\,\pi}-\frac{629\,004\,554\,073\,638\,\beta^{12}}{165\,\pi}-\frac{3\,785\,776\,902\,575\,456\,\beta^{14}}{429\,\pi}-\frac{351\,645\,388\,455\,353\,411\,\beta^{16}}{36\,465\,\pi}-\frac{179\,119\,291\,816\,024\,238\,\beta^{18}}{36\,465\,\pi}-\frac{39\,564\,061\,057\,458\,508\,\beta^{20}}{36\,465\,\pi}-\frac{21\,452\,120\,078\,362\,877\,\beta^{22}}{255\,255\,\pi}-\frac{1\,128\,351\,066\,161\,\beta^{24}}{1547\,\pi}+\frac{73\,095\,986\,648\,\beta^{26}}{4641\,\pi}-\frac{150\,031\,277\,\beta^{28}}{357\,\pi}+\frac{1\,109\,106\,\beta^{30}}{119\,\pi}-\frac{3933\,\beta^{32}}{34\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{816}{\pi}+\frac{1\,400\,256\,\beta^2}{\pi}+\frac{310\,390\,080\,\beta^4}{\pi}+\frac{17\,459\,442\,000\,\beta^6}{\pi}+\frac{338\,945\,967\,360\,\beta^8}{\pi}+\frac{2\,688\,971\,341\,056\,\beta^{10}}{\pi}+\frac{9\,611\,911\,685\,376\,\beta^{12}}{\pi}+\frac{16\,305\,921\,609\,120\,\beta^{14}}{\pi}+\frac{13\,321\,831\,380\,000\,\beta^{16}}{\pi}+\frac{5\,104\,364\,865\,600\,\beta^{18}}{\pi}+\frac{835\,259\,705\,280\,\beta^{20}}{\pi}+\frac{44\,294\,075\,280\,\beta^{22}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(5,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{48\,329\,\beta^2}{\pi}+\frac{34\,216\,506\,\beta^4}{\pi}+\frac{23\,687\,675\,956\,\beta^6}{5\,\pi}+\frac{2\,994\,039\,128\,389\,\beta^8}{15\,\pi}+\frac{48\,237\,643\,939\,409\,\beta^{10}}{15\,\pi}+\frac{16\,178\,690\,410\,784\,123\,\beta^{12}}{715\,\pi}+\frac{10\,759\,119\,863\,520\,900\,\beta^{14}}{143\,\pi}+\frac{16\,026\,584\,526\,827\,467\,\beta^{16}}{130\,\pi}+\frac{2\,445\,188\,833\,238\,539\,587\,\beta^{18}}{24\,310\,\pi}+\frac{1\,453\,235\,105\,056\,991\,263\,\beta^{20}}{36\,465\,\pi}+\frac{1\,804\,629\,454\,825\,652\,402\,\beta^{22}}{255\,255\,\pi}+\frac{15\,340\,237\,001\,749\,575\,\beta^{24}}{34\,034\,\pi}+\frac{2\,299\,991\,891\,143\,\beta^{26}}{714\,\pi}-\frac{43\,118\,970\,481\,\beta^{28}}{714\,\pi}+\frac{24\,068\,212\,\beta^{30}}{17\,\pi}-\frac{5\,690\,177\,\beta^{32}}{204\,\pi}+\frac{63\,365\,\beta^{34}}{204\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{936}{\pi}-\frac{2\,116\,296\,\beta^2}{\pi}-\frac{620\,780\,160\,\beta^4}{\pi}-\frac{46\,558\,512\,000\,\beta^6}{\pi}-\frac{1\,218\,901\,844\,160\,\beta^8}{\pi}-\frac{13\,252\,787\,323\,776\,\beta^{10}}{\pi}-\frac{66\,409\,571\,644\,416\,\beta^{12}}{\pi}-\frac{163\,059\,216\,091\,200\,\beta^{14}}{\pi}-\frac{202\,047\,775\,930\,000\,\beta^{16}}{\pi}-\frac{126\,333\,030\,423\,600\,\beta^{18}}{\pi}-\frac{38\,421\,946\,442\,880\,\beta^{20}}{\pi}-\frac{5\,138\,112\,732\,480\,\beta^{22}}{\pi}-\frac{228\,022\,754\,400\,\beta^{24}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,9,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{35\,\beta^2}{\pi}-\frac{119\,\beta^4}{3\,\pi}+\frac{941\,\beta^6}{30\,\pi}-\frac{521\,\beta^8}{35\,\pi}+\frac{857\,\beta^{10}}{210\,\pi}-\frac{25\,\beta^{12}}{42\,\pi}+\frac{\beta^{14}}{28\,\pi}\right)-\frac{8\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(7,11,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{755\,\beta^2}{3\,\pi}-\frac{1036\,\beta^4}{3\,\pi}+\frac{944\,\beta^6}{5\,\pi}-\frac{28\,886\,\beta^8}{315\,\pi}+\frac{9707\,\beta^{10}}{315\,\pi}-\frac{137\,\beta^{12}}{21\,\pi}+\frac{7\,\beta^{14}}{9\,\pi}-\frac{5\,\beta^{16}}{126\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{72}{\pi}+\frac{720\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{2239\,\beta^2}{3\,\pi}+\frac{88\,912\,\beta^4}{15\,\pi}+\frac{14\,268\,\beta^6}{5\,\pi}-\frac{96\,086\,\beta^8}{105\,\pi}+\frac{2083\,\beta^{10}}{7\,\pi}-\frac{221\,\beta^{12}}{3\,\pi}+\frac{184\,\beta^{14}}{15\,\pi}-\frac{253\,\beta^{16}}{210\,\pi}+\frac{11\,\beta^{18}}{210\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{120}{\pi}-\frac{3960\,\beta^2}{\pi}-\frac{10\,560\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{1647\,\beta^2}{\pi}-\frac{101\,123\,\beta^4}{3\,\pi}-\frac{2\,711\,791\,\beta^6}{30\,\pi}-\frac{725\,894\,\beta^8}{35\,\pi}+\frac{15\,175\,532\,\beta^{10}}{3465\,\pi}-\frac{100\,822\,\beta^{12}}{99\,\pi}+\frac{6361\,\beta^{14}}{33\,\pi}-\frac{89\,363\,\beta^{16}}{3465\,\pi}+\frac{7319\,\beta^{18}}{3465\,\pi}-\frac{13\,\beta^{20}}{165\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{176}{\pi}+\frac{13\,200\,\beta^2}{\pi}+\frac{102\,960\,\beta^4}{\pi}+\frac{120\,120\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{3103\,\beta^2}{\pi}+\frac{127\,785\,\beta^4}{\pi}+\frac{1\,662\,345\,\beta^6}{2\,\pi}+\frac{22\,348\,666\,\beta^8}{21\,\pi}+\frac{963\,056\,\beta^{10}}{7\,\pi}-\frac{4\,760\,614\,\beta^{12}}{231\,\pi}+\frac{1\,780\,643\,\beta^{14}}{495\,\pi}-\frac{1\,860\,053\,\beta^{16}}{3465\,\pi}+\frac{3237\,\beta^{18}}{55\,\pi}-\frac{403\,\beta^{20}}{99\,\pi}+\frac{13\,\beta^{22}}{99\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{240}{\pi}-\frac{34\,320\,\beta^2}{\pi}-\frac{560\,560\,\beta^4}{\pi}-\frac{1\,801\,800\,\beta^6}{\pi}-\frac{1\,153\,152\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{5285\,\beta^2}{\pi}-\frac{383\,936\,\beta^4}{\pi}-\frac{23\,940\,732\,\beta^6}{5\,\pi}-\frac{1\,509\,762\,434\,\beta^8}{105\,\pi}-\frac{368\,661\,339\,\beta^{10}}{35\,\pi}-\frac{2\,562\,292\,979\,\beta^{12}}{3003\,\pi}+\frac{860\,000\,780\,\beta^{14}}{9009\,\pi}-\frac{166\,971\,401\,\beta^{16}}{12\,870\,\pi}+\frac{203\,457\,\beta^{18}}{130\,\pi}-\frac{920\,428\,\beta^{20}}{6435\,\pi}+\frac{10\,880\,\beta^{22}}{1287\,\pi}-\frac{34\,\beta^{24}}{143\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{312}{\pi}+\frac{76\,440\,\beta^2}{\pi}+\frac{2\,242\,240\,\beta^4}{\pi}+\frac{14\,414\,400\,\beta^6}{\pi}+\frac{24\,504\,480\,\beta^8}{\pi}+\frac{9\,801\,792\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{8385\,\beta^2}{\pi}+\frac{2\,961\,788\,\beta^4}{3\,\pi}+\frac{15\,361\,288\,064\,\beta^6}{735\,\pi}+\frac{28\,610\,319\,746\,\beta^8}{245\,\pi}+\frac{433\,115\,863\,967\,\beta^{10}}{2205\,\pi}+\frac{446\,325\,692\,551\,\beta^{12}}{4851\,\pi}+\frac{15\,094\,947\,215\,\beta^{14}}{3003\,\pi}-\frac{39\,298\,572\,113\,\beta^{16}}{90\,090\,\pi}+\frac{2\,139\,023\,662\,\beta^{18}}{45\,045\,\pi}-\frac{496\,775\,156\,\beta^{20}}{105\,105\,\pi}+\frac{7\,681\,756\,\beta^{22}}{21\,021\,\pi}-\frac{392\,122\,\beta^{24}}{21\,021\,\pi}+\frac{3230\,\beta^{26}}{7007\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{392}{\pi}-\frac{152\,880\,\beta^2}{\pi}-\frac{7\,338\,240\,\beta^4}{\pi}-\frac{81\,681\,600\,\beta^6}{\pi}-\frac{269\,549\,280\,\beta^8}{\pi}-\frac{279\,351\,072\,\beta^{10}}{\pi}-\frac{532\,097\,280\,\beta^{12}}{7\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{37\,849\,\beta^2}{3\,\pi}-\frac{34\,000\,981\,\beta^4}{15\,\pi}-\frac{753\,729\,543\,\beta^6}{10\,\pi}-\frac{10\,452\,842\,671\,\beta^8}{15\,\pi}-\frac{4\,273\,131\,509\,\beta^{10}}{2\,\pi}-\frac{149\,482\,509\,727\,\beta^{12}}{66\,\pi}-\frac{6\,274\,275\,073\,867\,\beta^{14}}{8580\,\pi}-\frac{20\,333\,862\,732\,\beta^{16}}{715\,\pi}+\frac{4\,226\,833\,012\,\beta^{18}}{2145\,\pi}-\frac{75\,393\,436\,\beta^{20}}{429\,\pi}+\frac{44\,082\,394\,\beta^{22}}{3003\,\pi}-\frac{4\,866\,964\,\beta^{24}}{5005\,\pi}+\frac{649\,876\,\beta^{26}}{15\,015\,\pi}-\frac{1292\,\beta^{28}}{1365\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{480}{\pi}+\frac{282\,240\,\beta^2}{\pi}+\frac{20\,791\,680\,\beta^4}{\pi}+\frac{367\,567\,200\,\beta^6}{\pi}+\frac{2\,048\,574\,528\,\beta^8}{\pi}+\frac{4\,035\,071\,040\,\beta^{10}}{\pi}+\frac{2\,793\,510\,720\,\beta^{12}}{\pi}+\frac{548\,725\,320\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{54\,641\,\beta^2}{3\,\pi}+\frac{14\,312\,725\,\beta^4}{3\,\pi}+\frac{471\,717\,799\,\beta^6}{2\,\pi}+\frac{3\,351\,458\,767\,\beta^8}{\pi}+\frac{33\,389\,730\,387\,\beta^{10}}{2\,\pi}+\frac{699\,123\,636\,119\,\beta^{12}}{22\,\pi}+\frac{39\,431\,643\,437\,333\,\beta^{14}}{1716\,\pi}+\frac{11\,578\,579\,936\,259\,\beta^{16}}{2145\,\pi}+\frac{20\,244\,963\,757\,\beta^{18}}{130\,\pi}-\frac{37\,818\,574\,187\,\beta^{20}}{4290\,\pi}+\frac{7\,880\,257\,163\,\beta^{22}}{12\,012\,\pi}-\frac{93\,384\,145\,\beta^{24}}{2002\,\pi}+\frac{14\,614\,781\,\beta^{26}}{5460\,\pi}-\frac{81\,719\,\beta^{28}}{780\,\pi}+\frac{7429\,\beta^{30}}{3640\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{576}{\pi}-\frac{489\,600\,\beta^2}{\pi}-\frac{52\,778\,880\,\beta^4}{\pi}-\frac{1\,396\,755\,360\,\beta^6}{\pi}-\frac{12\,105\,213\,120\,\beta^8}{\pi}-\frac{39\,543\,696\,192\,\beta^{10}}{\pi}-\frac{51\,214\,363\,200\,\beta^{12}}{\pi}-\frac{25\,241\,364\,720\,\beta^{14}}{\pi}-\frac{3\,739\,461\,440\,\beta^{16}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{25\,433\,\beta^2}{\pi}-\frac{140\,544\,836\,\beta^4}{15\,\pi}-\frac{9\,909\,568\,312\,\beta^6}{15\,\pi}-\frac{68\,487\,921\,342\,\beta^8}{5\,\pi}-\frac{928\,767\,487\,453\,\beta^{10}}{9\,\pi}-\frac{31\,163\,475\,477\,253\,\beta^{12}}{99\,\pi}-\frac{866\,729\,219\,069\,693\,\beta^{14}}{2145\,\pi}-\frac{46\,147\,224\,488\,908\,547\,\beta^{16}}{218\,790\,\pi}-\frac{4\,107\,208\,601\,182\,208\,\beta^{18}}{109\,395\,\pi}-\frac{2\,018\,056\,942\,339\,\beta^{20}}{2431\,\pi}+\frac{1\,996\,671\,976\,573\,\beta^{22}}{51\,051\,\pi}-\frac{114\,443\,333\,213\,\beta^{24}}{46\,410\,\pi}+\frac{166\,930\,067\,\beta^{26}}{1105\,\pi}-\frac{50\,266\,799\,\beta^{28}}{6630\,\pi}+\frac{2\,440\,645\,\beta^{30}}{9282\,\pi}-\frac{2185\,\beta^{32}}{476\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{680}{\pi}+\frac{807\,840\,\beta^2}{\pi}+\frac{122\,791\,680\,\beta^4}{\pi}+\frac{4\,655\,851\,200\,\beta^6}{\pi}+\frac{59\,315\,544\,288\,\beta^8}{\pi}+\frac{296\,577\,721\,440\,\beta^{10}}{\pi}+\frac{628\,229\,521\,920\,\beta^{12}}{\pi}+\frac{572\,137\,600\,320\,\beta^{14}}{\pi}+\frac{210\,344\,706\,000\,\beta^{16}}{\pi}+\frac{24\,306\,499\,360\,\beta^{18}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{103\,655\,\beta^2}{3\,\pi}+\frac{52\,161\,208\,\beta^4}{3\,\pi}+\frac{8\,460\,094\,972\,\beta^6}{5\,\pi}+\frac{738\,398\,977\,522\,\beta^8}{15\,\pi}+\frac{88\,032\,151\,509\,451\,\beta^{10}}{165\,\pi}+\frac{26\,741\,432\,691\,561\,\beta^{12}}{11\,\pi}+\frac{2\,122\,359\,305\,661\,910\,\beta^{14}}{429\,\pi}+\frac{19\,490\,112\,932\,623\,937\,\beta^{16}}{4290\,\pi}+\frac{43\,421\,223\,748\,403\,911\,\beta^{18}}{24\,310\,\pi}+\frac{9\,067\,915\,839\,863\,017\,\beta^{20}}{36\,465\,\pi}+\frac{20\,078\,675\,543\,456\,\beta^{22}}{4641\,\pi}-\frac{533\,059\,298\,773\,\beta^{24}}{3094\,\pi}+\frac{4\,120\,271\,543\,\beta^{26}}{442\,\pi}-\frac{219\,761\,619\,\beta^{28}}{442\,\pi}+\frac{2\,618\,941\,\beta^{30}}{119\,\pi}-\frac{972\,325\,\beta^{32}}{1428\,\pi}+\frac{2185\,\beta^{34}}{204\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{792}{\pi}-\frac{1\,279\,080\,\beta^2}{\pi}-\frac{266\,048\,640\,\beta^4}{\pi}-\frac{13\,967\,553\,600\,\beta^6}{\pi}-\frac{250\,950\,379\,680\,\beta^8}{\pi}-\frac{1\,819\,010\,024\,832\,\beta^{10}}{\pi}-\frac{5\,825\,401\,021\,440\,\beta^{12}}{\pi}-\frac{8\,582\,064\,004\,800\,\beta^{14}}{\pi}-\frac{5\,772\,793\,598\,000\,\beta^{16}}{\pi}-\frac{1\,640\,688\,706\,800\,\beta^{18}}{\pi}-\frac{151\,865\,400\,960\,\beta^{20}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(7,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{137\,605\,\beta^2}{3\,\pi}-\frac{92\,314\,103\,\beta^4}{3\,\pi}-\frac{40\,239\,973\,809\,\beta^6}{10\,\pi}-\frac{2\,389\,317\,160\,222\,\beta^8}{15\,\pi}-\frac{11\,960\,661\,958\,862\,\beta^{10}}{5\,\pi}-\frac{511\,718\,857\,785\,284\,\beta^{12}}{33\,\pi}-\frac{20\,023\,910\,522\,819\,210\,\beta^{14}}{429\,\pi}-\frac{48\,168\,081\,327\,421\,447\,\beta^{16}}{715\,\pi}-\frac{32\,048\,789\,334\,860\,920\,051\,\beta^{18}}{692\,835\,\pi}-\frac{9\,807\,761\,378\,159\,144\,833\,\beta^{20}}{692\,835\,\pi}-\frac{90\,208\,127\,322\,278\,195\,\beta^{22}}{57\,057\,\pi}-\frac{650\,133\,037\,989\,329\,\beta^{24}}{29\,393\,\pi}+\frac{66\,508\,970\,586\,659\,\beta^{26}}{88\,179\,\pi}-\frac{34\,310\,070\,692\,\beta^{28}}{969\,\pi}+\frac{3\,751\,348\,691\,\beta^{30}}{2261\,\pi}-\frac{42\,154\,745\,\beta^{32}}{646\,\pi}+\frac{1\,170\,585\,\beta^{34}}{646\,\pi}-\frac{16\,675\,\beta^{36}}{646\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{912}{\pi}+\frac{1\,956\,240\,\beta^2}{\pi}+\frac{543\,182\,640\,\beta^4}{\pi}+\frac{38\,410\,772\,400\,\beta^6}{\pi}+\frac{942\,344\,282\,880\,\beta^8}{\pi}+\frac{9\,514\,821\,668\,352\,\beta^{10}}{\pi}+\frac{43\,690\,507\,660\,800\,\beta^{12}}{\pi}+\frac{96\,353\,173\,144\,800\,\beta^{14}}{\pi}+\frac{103\,910\,284\,764\,000\,\beta^{16}}{\pi}+\frac{53\,595\,831\,088\,800\,\beta^{18}}{\pi}+\frac{12\,111\,265\,726\,560\,\beta^{20}}{\pi}+\frac{917\,520\,130\,800\,\beta^{22}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,11,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{57\,\beta^2}{\pi}-\frac{508\,\beta^4}{5\,\pi}+\frac{664\,\beta^6}{5\,\pi}-\frac{3866\,\beta^8}{35\,\pi}+\frac{3677\,\beta^{10}}{63\,\pi}-\frac{1229\,\beta^{12}}{63\,\pi}+\frac{419\,\beta^{14}}{105\,\pi}-\frac{41\,\beta^{16}}{90\,\pi}+\frac{\beta^{18}}{45\,\pi}\right)-\frac{10\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(9,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{381\,\beta^2}{\pi}-\frac{832\,\beta^4}{\pi}+\frac{3452\,\beta^6}{5\,\pi}-\frac{18\,862\,\beta^8}{35\,\pi}+\frac{1\,074\,751\,\beta^{10}}{3465\,\pi}-\frac{85\,997\,\beta^{12}}{693\,\pi}+\frac{2566\,\beta^{14}}{77\,\pi}-\frac{39\,563\,\beta^{16}}{6930\,\pi}+\frac{557\,\beta^{18}}{990\,\pi}-\frac{4\,\beta^{20}}{165\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{88}{\pi}+\frac{1320\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{9743\,\beta^2}{9\,\pi}+\frac{114\,133\,\beta^4}{9\,\pi}+\frac{95\,513\,\beta^6}{10\,\pi}-\frac{1\,431\,254\,\beta^8}{315\,\pi}+\frac{732\,566\,\beta^{10}}{315\,\pi}-\frac{1\,118\,956\,\beta^{12}}{1155\,\pi}+\frac{624\,166\,\beta^{14}}{2079\,\pi}-\frac{681\,119\,\beta^{16}}{10\,395\,\pi}+\frac{4678\,\beta^{18}}{495\,\pi}-\frac{1196\,\beta^{20}}{1485\,\pi}+\frac{91\,\beta^{22}}{2970\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{144}{\pi}-\frac{6864\,\beta^2}{\pi}-\frac{80\,080\,\beta^4}{3\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{2311\,\beta^2}{\pi}-\frac{201\,151\,\beta^4}{3\,\pi}-\frac{7\,798\,883\,\beta^6}{30\,\pi}-\frac{3\,221\,482\,\beta^8}{35\,\pi}+\frac{8\,942\,966\,\beta^{10}}{315\,\pi}-\frac{92\,164\,256\,\beta^{12}}{9009\,\pi}+\frac{9\,650\,720\,\beta^{14}}{3003\,\pi}-\frac{462\,451\,\beta^{16}}{585\,\pi}+\frac{915\,788\,\beta^{18}}{6435\,\pi}-\frac{37\,402\,\beta^{20}}{2145\,\pi}+\frac{3325\,\beta^{22}}{2574\,\pi}-\frac{56\,\beta^{24}}{1287\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{208}{\pi}+\frac{21\,840\,\beta^2}{\pi}+\frac{240\,240\,\beta^4}{\pi}+\frac{400\,400\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{4237\,\beta^2}{\pi}+\frac{719\,920\,\beta^4}{3\,\pi}+\frac{45\,653\,156\,\beta^6}{21\,\pi}+\frac{27\,731\,390\,\beta^8}{7\,\pi}+\frac{49\,219\,859\,\beta^{10}}{63\,\pi}-\frac{117\,169\,963\,\beta^{12}}{693\,\pi}+\frac{96\,936\,254\,\beta^{14}}{2145\,\pi}-\frac{142\,483\,007\,\beta^{16}}{12\,870\,\pi}+\frac{28\,437\,899\,\beta^{18}}{12\,870\,\pi}-\frac{999\,832\,\beta^{20}}{3003\,\pi}+\frac{315\,256\,\beta^{22}}{9009\,\pi}-\frac{20\,434\,\beta^{24}}{9009\,\pi}+\frac{68\,\beta^{26}}{1001\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{280}{\pi}-\frac{54\,600\,\beta^2}{\pi}-\frac{1\,223\,040\,\beta^4}{\pi}-\frac{5\,445\,440\,\beta^6}{\pi}-\frac{4\,900\,896\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{63\,473\,\beta^2}{9\,\pi}-\frac{30\,932\,084\,\beta^4}{45\,\pi}-\frac{58\,035\,432\,\beta^6}{5\,\pi}-\frac{15\,079\,300\,318\,\beta^8}{315\,\pi}-\frac{3\,104\,786\,833\,\beta^{10}}{63\,\pi}-\frac{1\,392\,900\,931\,\beta^{12}}{231\,\pi}+\frac{11\,876\,452\,853\,\beta^{14}}{12\,285\,\pi}-\frac{7\,695\,900\,899\,\beta^{16}}{38\,610\,\pi}+\frac{251\,777\,063\,\beta^{18}}{6435\,\pi}-\frac{24\,930\,716\,\beta^{20}}{3861\,\pi}+\frac{22\,303\,796\,\beta^{22}}{27\,027\,\pi}-\frac{1\,127\,746\,\beta^{24}}{15\,015\,\pi}+\frac{14\,858\,\beta^{26}}{3465\,\pi}-\frac{5168\,\beta^{28}}{45\,045\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{360}{\pi}+\frac{117\,600\,\beta^2}{\pi}+\frac{13\,861\,120\,\beta^4}{3\,\pi}+\frac{40\,098\,240\,\beta^6}{\pi}+\frac{93\,117\,024\,\beta^8}{\pi}+\frac{51\,731\,680\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{10\,971\,\beta^2}{\pi}+\frac{1\,697\,175\,\beta^4}{\pi}+\frac{665\,536\,617\,\beta^6}{14\,\pi}+\frac{2\,486\,303\,297\,\beta^8}{7\,\pi}+\frac{102\,220\,765\,393\,\beta^{10}}{126\,\pi}+\frac{732\,501\,557\,581\,\beta^{12}}{1386\,\pi}+\frac{2\,248\,262\,561\,\beta^{14}}{52\,\pi}-\frac{34\,383\,120\,839\,\beta^{16}}{6435\,\pi}+\frac{11\,272\,447\,309\,\beta^{18}}{12\,870\,\pi}-\frac{4\,229\,257\,807\,\beta^{20}}{30\,030\,\pi}+\frac{234\,594\,169\,\beta^{22}}{12\,012\,\pi}-\frac{12\,866\,705\,\beta^{24}}{6006\,\pi}+\frac{3\,409\,911\,\beta^{26}}{20\,020\,\pi}-\frac{73\,967\,\beta^{28}}{8580\,\pi}+\frac{323\,\beta^{30}}{1560\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{448}{\pi}-\frac{228\,480\,\beta^2}{\pi}-\frac{14\,394\,240\,\beta^4}{\pi}-\frac{211\,629\,600\,\beta^6}{\pi}-\frac{931\,170\,240\,\beta^8}{\pi}-\frac{1\,303\,638\,336\,\beta^{10}}{\pi}-\frac{487\,755\,840\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{16\,227\,\beta^2}{\pi}-\frac{3\,762\,243\,\beta^4}{\pi}-\frac{324\,683\,163\,\beta^6}{2\,\pi}-\frac{1\,963\,834\,517\,\beta^8}{\pi}-\frac{143\,457\,335\,221\,\beta^{10}}{18\,\pi}-\frac{2\,250\,386\,389\,261\,\beta^{12}}{198\,\pi}-\frac{8\,681\,538\,754\,055\,\beta^{14}}{1716\,\pi}-\frac{31\,984\,078\,978\,226\,\beta^{16}}{109\,395\,\pi}+\frac{3\,140\,218\,048\,202\,\beta^{18}}{109\,395\,\pi}-\frac{46\,574\,261\,762\,\beta^{20}}{12\,155\,\pi}+\frac{131\,186\,481\,521\,\beta^{22}}{255\,255\,\pi}-\frac{3\,099\,644\,116\,\beta^{24}}{51\,051\,\pi}+\frac{491\,490\,841\,\beta^{26}}{85\,085\,\pi}-\frac{721\,867\,\beta^{28}}{1785\,\pi}+\frac{121\,049\,\beta^{30}}{6630\,\pi}-\frac{437\,\beta^{32}}{1105\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{544}{\pi}+\frac{411\,264\,\beta^2}{\pi}+\frac{39\,070\,080\,\beta^4}{\pi}+\frac{895\,356\,000\,\beta^6}{\pi}+\frac{6\,518\,191\,680\,\beta^8}{\pi}+\frac{16\,947\,298\,368\,\beta^{10}}{\pi}+\frac{15\,705\,738\,048\,\beta^{12}}{\pi}+\frac{4\,206\,894\,120\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{207\,689\,\beta^2}{9\,\pi}+\frac{69\,112\,300\,\beta^4}{9\,\pi}+\frac{1\,453\,417\,984\,\beta^6}{3\,\pi}+\frac{716\,338\,309\,126\,\beta^8}{81\,\pi}+\frac{4\,626\,090\,324\,833\,\beta^{10}}{81\,\pi}+\frac{42\,377\,101\,212\,487\,\beta^{12}}{297\,\pi}+\frac{1\,595\,126\,053\,714\,069\,\beta^{14}}{11\,583\,\pi}+\frac{466\,160\,827\,758\,793\,\beta^{16}}{10\,530\,\pi}+\frac{206\,209\,633\,050\,589\,\beta^{18}}{109\,395\,\pi}-\frac{49\,415\,836\,041\,739\,\beta^{20}}{328\,185\,\pi}+\frac{7\,667\,008\,670\,033\,\beta^{22}}{459\,459\,\pi}-\frac{580\,640\,880\,175\,\beta^{24}}{306\,306\,\pi}+\frac{120\,955\,557\,088\,\beta^{26}}{626\,535\,\pi}-\frac{1\,549\,712\,561\,\beta^{28}}{96\,390\,\pi}+\frac{416\,994\,577\,\beta^{30}}{417\,690\,\pi}-\frac{2\,895\,125\,\beta^{32}}{71\,604\,\pi}+\frac{2185\,\beta^{34}}{2754\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{648}{\pi}-\frac{697\,680\,\beta^2}{\pi}-\frac{95\,504\,640\,\beta^4}{\pi}-\frac{3\,223\,281\,600\,\beta^6}{\pi}-\frac{35\,850\,054\,240\,\beta^8}{\pi}-\frac{151\,584\,168\,736\,\beta^{10}}{\pi}-\frac{257\,002\,986\,240\,\beta^{12}}{\pi}-\frac{168\,275\,764\,800\,\beta^{14}}{\pi}-\frac{303\,831\,242\,000\,\beta^{16}}{9\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{31\,797\,\beta^2}{\pi}-\frac{73\,388\,856\,\beta^4}{5\,\pi}-\frac{6\,507\,887\,892\,\beta^6}{5\,\pi}-\frac{170\,627\,858\,566\,\beta^8}{5\,\pi}-\frac{2\,947\,726\,958\,819\,\beta^{10}}{9\,\pi}-\frac{127\,240\,605\,225\,449\,\beta^{12}}{99\,\pi}-\frac{4\,611\,691\,057\,218\,844\,\beta^{14}}{2145\,\pi}-\frac{19\,150\,307\,995\,397\,003\,\beta^{16}}{12\,870\,\pi}-\frac{1\,497\,159\,204\,463\,251\,707\,\beta^{18}}{4\,157\,010\,\pi}-\frac{539\,545\,415\,839\,009\,\beta^{20}}{46\,189\,\pi}+\frac{750\,680\,503\,128\,142\,\beta^{22}}{969\,969\,\pi}-\frac{63\,804\,284\,354\,711\,\beta^{24}}{881\,790\,\pi}+\frac{2\,072\,679\,009\,571\,\beta^{26}}{293\,930\,\pi}-\frac{551\,526\,848\,071\,\beta^{28}}{881\,790\,\pi}+\frac{4\,053\,583\,480\,\beta^{30}}{88\,179\,\pi}-\frac{3\,292\,565\,\beta^{32}}{1292\,\pi}+\frac{360\,755\,\beta^{34}}{3876\,\pi}-\frac{1610\,\beta^{36}}{969\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{760}{\pi}+\frac{1\,128\,600\,\beta^2}{\pi}+\frac{214\,885\,440\,\beta^4}{\pi}+\frac{10\,242\,872\,640\,\beta^6}{\pi}+\frac{164\,910\,249\,504\,\beta^8}{\pi}+\frac{1\,049\,428\,860\,480\,\beta^{10}}{\pi}+\frac{2\,855\,588\,736\,000\,\beta^{12}}{\pi}+\frac{3\,380\,813\,092\,800\,\beta^{14}}{\pi}+\frac{1\,640\,688\,706\,800\,\beta^{16}}{\pi}+\frac{255\,218\,243\,280\,\beta^{18}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(9,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{42\,687\,\beta^2}{\pi}+\frac{26\,587\,689\,\beta^4}{\pi}+\frac{6\,425\,000\,673\,\beta^6}{2\,\pi}+\frac{116\,569\,867\,814\,\beta^8}{\pi}+\frac{156\,958\,358\,958\,472\,\beta^{10}}{99\,\pi}+\frac{904\,686\,753\,607\,166\,\beta^{12}}{99\,\pi}+\frac{16\,994\,067\,195\,553\,013\,\beta^{14}}{715\,\pi}+\frac{181\,920\,633\,788\,325\,319\,\beta^{16}}{6435\,\pi}+\frac{1\,602\,859\,038\,091\,976\,164\,\beta^{18}}{109\,395\,\pi}+\frac{382\,224\,060\,721\,228\,852\,\beta^{20}}{138\,567\,\pi}+\frac{12\,346\,826\,687\,430\,317\,\beta^{22}}{176\,358\,\pi}-\frac{344\,679\,569\,739\,121\,\beta^{24}}{88\,179\,\pi}+\frac{706\,533\,045\,012\,\beta^{26}}{2261\,\pi}-\frac{2\,329\,225\,275\,887\,\beta^{28}}{88\,179\,\pi}+\frac{3\,990\,094\,855\,\beta^{30}}{1938\,\pi}-\frac{86\,901\,015\,\beta^{32}}{646\,\pi}+\frac{6\,489\,703\,\beta^{34}}{969\,\pi}-\frac{214\,774\,\beta^{36}}{969\,\pi}+\frac{4669\,\beta^{38}}{1292\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{880}{\pi}-\frac{1\,755\,600\,\beta^2}{\pi}-\frac{451\,891\,440\,\beta^4}{\pi}-\frac{29\,448\,258\,840\,\beta^6}{\pi}-\frac{659\,640\,998\,016\,\beta^8}{\pi}-\frac{5\,996\,736\,345\,600\,\beta^{10}}{\pi}-\frac{24\,272\,504\,256\,000\,\beta^{12}}{\pi}-\frac{45\,640\,976\,752\,800\,\beta^{14}}{\pi}-\frac{39\,674\,836\,000\,800\,\beta^{16}}{\pi}-\frac{14\,802\,658\,110\,240\,\beta^{18}}{\pi}-\frac{1\,835\,040\,261\,600\,\beta^{20}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,13,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{253\,\beta^2}{3\,\pi}-\frac{649\,\beta^4}{3\,\pi}+\frac{4191\,\beta^6}{10\,\pi}-\frac{55\,814\,\beta^8}{105\,\pi}+\frac{15\,616\,\beta^{10}}{35\,\pi}-\frac{58\,210\,\beta^{12}}{231\,\pi}+\frac{7404\,\beta^{14}}{77\,\pi}-\frac{4031\,\beta^{16}}{165\,\pi}+\frac{653\,\beta^{18}}{165\,\pi}-\frac{61\,\beta^{20}}{165\,\pi}+\frac{\beta^{22}}{66\,\pi}\right)-\frac{12\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(11,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{537\,\beta^2}{\pi}-\frac{5126\,\beta^4}{3\,\pi}+\frac{29\,788\,\beta^6}{15\,\pi}-\frac{78\,749\,\beta^8}{35\,\pi}+\frac{611\,389\,\beta^{10}}{315\,\pi}-\frac{54\,739\,991\,\beta^{12}}{45\,045\,\pi}+\frac{1\,634\,284\,\beta^{14}}{3003\,\pi}-\frac{2\,212\,051\,\beta^{16}}{12\,870\,\pi}+\frac{480\,037\,\beta^{18}}{12\,870\,\pi}-\frac{11\,338\,\beta^{20}}{2145\,\pi}+\frac{944\,\beta^{22}}{2145\,\pi}-\frac{7\,\beta^{24}}{429\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{104}{\pi}+\frac{2184\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{1481\,\beta^2}{\pi}+\frac{24\,002\,\beta^4}{\pi}+\frac{911\,196\,\beta^6}{35\,\pi}-\frac{1\,787\,929\,\beta^8}{105\,\pi}+\frac{435\,591\,\beta^{10}}{35\,\pi}-\frac{1\,770\,355\,\beta^{12}}{231\,\pi}+\frac{4\,726\,120\,\beta^{14}}{1287\,\pi}-\frac{17\,017\,213\,\beta^{16}}{12\,870\,\pi}+\frac{497\,911\,\beta^{18}}{1430\,\pi}-\frac{2\,917\,478\,\beta^{20}}{45\,045\,\pi}+\frac{6584\,\beta^{22}}{819\,\pi}-\frac{597\,\beta^{24}}{1001\,\pi}+\frac{20\,\beta^{26}}{1001\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{168}{\pi}-\frac{10\,920\,\beta^2}{\pi}-\frac{58\,240\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{3087\,\beta^2}{\pi}-\frac{602\,393\,\beta^4}{5\,\pi}-\frac{6\,367\,047\,\beta^6}{10\,\pi}-\frac{33\,760\,298\,\beta^8}{105\,\pi}+\frac{942\,188\,\beta^{10}}{7\,\pi}-\frac{15\,796\,010\,\beta^{12}}{231\,\pi}+\frac{1\,414\,444\,426\,\beta^{14}}{45\,045\,\pi}-\frac{76\,094\,479\,\beta^{16}}{6435\,\pi}+\frac{2\,488\,927\,\beta^{18}}{715\,\pi}-\frac{994\,139\,\beta^{20}}{1287\,\pi}+\frac{2\,233\,981\,\beta^{22}}{18\,018\,\pi}-\frac{67\,736\,\beta^{24}}{5005\,\pi}+\frac{408\,\beta^{26}}{455\,\pi}-\frac{136\,\beta^{28}}{5005\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{240}{\pi}+\frac{33\,600\,\beta^2}{\pi}+\frac{495\,040\,\beta^4}{\pi}+\frac{1\,113\,840\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{5547\,\beta^2}{\pi}+\frac{6\,200\,497\,\beta^4}{15\,\pi}+\frac{149\,085\,403\,\beta^6}{30\,\pi}+\frac{426\,852\,863\,\beta^8}{35\,\pi}+\frac{428\,643\,527\,\beta^{10}}{126\,\pi}-\frac{1\,371\,916\,213\,\beta^{12}}{1386\,\pi}+\frac{3\,168\,419\,671\,\beta^{14}}{8580\,\pi}-\frac{41\,277\,149\,\beta^{16}}{315\,\pi}+\frac{511\,090\,739\,\beta^{18}}{12\,870\,\pi}-\frac{8\,332\,619\,\beta^{20}}{858\,\pi}+\frac{7\,351\,569\,\beta^{22}}{4004\,\pi}-\frac{2\,564\,909\,\beta^{24}}{10\,010\,\pi}+\frac{44\,999\,\beta^{26}}{1820\,\pi}-\frac{323\,\beta^{28}}{220\,\pi}+\frac{323\,\beta^{30}}{8008\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{320}{\pi}-\frac{81\,600\,\beta^2}{\pi}-\frac{2\,399\,040\,\beta^4}{\pi}-\frac{14\,108\,640\,\beta^6}{\pi}-\frac{16\,930\,368\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{27\,223\,\beta^2}{3\,\pi}-\frac{3\,426\,950\,\beta^4}{3\,\pi}-\frac{25\,072\,038\,\beta^6}{\pi}-\frac{2\,850\,066\,941\,\beta^8}{21\,\pi}-\frac{1\,304\,032\,091\,\beta^{10}}{7\,\pi}-\frac{7\,393\,074\,926\,\beta^{12}}{231\,\pi}+\frac{20\,571\,283\,526\,\beta^{14}}{3003\,\pi}-\frac{6\,482\,849\,969\,\beta^{16}}{3315\,\pi}+\frac{20\,123\,897\,987\,\beta^{18}}{36\,465\,\pi}-\frac{5\,008\,027\,439\,\beta^{20}}{36\,465\,\pi}+\frac{1\,445\,150\,767\,\beta^{22}}{51\,051\,\pi}-\frac{156\,808\,955\,\beta^{24}}{34\,034\,\pi}+\frac{13\,071\,601\,\beta^{26}}{23\,205\,\pi}-\frac{24\,665\,401\,\beta^{28}}{510\,510\,\pi}+\frac{62\,757\,\beta^{30}}{24\,310\,\pi}-\frac{57\,\beta^{32}}{884\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{408}{\pi}+\frac{171\,360\,\beta^2}{\pi}+\frac{8\,682\,240\,\beta^4}{\pi}+\frac{97\,675\,200\,\beta^6}{\pi}+\frac{296\,281\,440\,\beta^8}{\pi}+\frac{217\,273\,056\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{41\,711\,\beta^2}{3\,\pi}+\frac{8\,201\,974\,\beta^4}{3\,\pi}+\frac{684\,790\,478\,\beta^6}{7\,\pi}+\frac{59\,257\,884\,191\,\beta^8}{63\,\pi}+\frac{176\,030\,048\,281\,\beta^{10}}{63\,\pi}+\frac{555\,925\,336\,262\,\beta^{12}}{231\,\pi}+\frac{353\,460\,907\,190\,\beta^{14}}{1287\,\pi}-\frac{289\,983\,844\,327\,\beta^{16}}{6435\,\pi}+\frac{123\,516\,186\,337\,\beta^{18}}{12\,155\,\pi}-\frac{595\,839\,947\,383\,\beta^{20}}{255\,255\,\pi}+\frac{123\,871\,006\,579\,\beta^{22}}{255\,255\,\pi}-\frac{2\,906\,079\,469\,\beta^{24}}{34\,034\,\pi}+\frac{840\,918\,986\,\beta^{26}}{69\,615\,\pi}-\frac{285\,125\,267\,\beta^{28}}{218\,790\,\pi}+\frac{662\,321\,\beta^{30}}{6630\,\pi}-\frac{191\,843\,\beta^{32}}{39\,780\,\pi}+\frac{437\,\beta^{34}}{3978\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{504}{\pi}-\frac{325\,584\,\beta^2}{\pi}-\frac{26\,046\,720\,\beta^4}{\pi}-\frac{488\,376\,000\,\beta^6}{\pi}-\frac{2\,757\,696\,480\,\beta^8}{\pi}-\frac{4\,997\,280\,288\,\beta^{10}}{\pi}-\frac{2\,447\,647\,488\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{20\,291\,\beta^2}{\pi}-\frac{17\,691\,025\,\beta^4}{3\,\pi}-\frac{1\,921\,450\,003\,\beta^6}{6\,\pi}-\frac{4\,904\,022\,871\,\beta^8}{\pi}-\frac{457\,177\,374\,859\,\beta^{10}}{18\,\pi}-\frac{9\,255\,619\,934\,083\,\beta^{12}}{198\,\pi}-\frac{46\,871\,629\,629\,653\,\beta^{14}}{1716\,\pi}-\frac{14\,086\,106\,409\,406\,\beta^{16}}{6435\,\pi}+\frac{590\,504\,468\,320\,784\,\beta^{18}}{2\,078\,505\,\pi}-\frac{11\,983\,426\,891\,572\,\beta^{20}}{230\,945\,\pi}+\frac{290\,709\,009\,681\,\beta^{22}}{29\,393\,\pi}-\frac{563\,532\,560\,700\,\beta^{24}}{323\,323\,\pi}+\frac{427\,987\,307\,403\,\beta^{26}}{1\,616\,615\,\pi}-\frac{43\,430\,809\,531\,\beta^{28}}{1\,322\,685\,\pi}+\frac{1\,189\,229\,927\,\beta^{30}}{377\,910\,\pi}-\frac{2\,730\,031\,\beta^{32}}{12\,597\,\pi}+\frac{358\,685\,\beta^{34}}{37\,791\,\pi}-\frac{575\,\beta^{36}}{2907\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{608}{\pi}+\frac{574\,560\,\beta^2}{\pi}+\frac{68\,372\,640\,\beta^4}{\pi}+\frac{1\,969\,783\,200\,\beta^6}{\pi}+\frac{18\,122\,005\,440\,\beta^8}{\pi}+\frac{59\,967\,363\,456\,\beta^{10}}{\pi}+\frac{71\,389\,718\,400\,\beta^{12}}{\pi}+\frac{24\,858\,919\,800\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{85\,541\,\beta^2}{3\,\pi}+\frac{176\,212\,487\,\beta^4}{15\,\pi}+\frac{9\,206\,416\,571\,\beta^6}{10\,\pi}+\frac{943\,912\,292\,026\,\beta^8}{45\,\pi}+\frac{1\,531\,606\,707\,478\,\beta^{10}}{9\,\pi}+\frac{17\,779\,447\,101\,656\,\beta^{12}}{33\,\pi}+\frac{4\,290\,303\,727\,302\,277\,\beta^{14}}{6435\,\pi}+\frac{1\,799\,266\,874\,411\,009\,\beta^{16}}{6435\,\pi}+\frac{199\,603\,720\,582\,531\,\beta^{18}}{12\,155\,\pi}-\frac{239\,411\,796\,049\,721\,\beta^{20}}{138\,567\,\pi}+\frac{505\,975\,254\,084\,373\,\beta^{22}}{1\,939\,938\,\pi}-\frac{67\,761\,234\,256\,591\,\beta^{24}}{1\,616\,615\,\pi}+\frac{8\,386\,122\,282\,917\,\beta^{26}}{1\,322\,685\,\pi}-\frac{1\,110\,499\,665\,404\,\beta^{28}}{1\,322\,685\,\pi}+\frac{2\,317\,996\,879\,\beta^{30}}{25\,194\,\pi}-\frac{595\,701\,725\,\beta^{32}}{75\,582\,\pi}+\frac{2\,849\,171\,\beta^{34}}{5814\,\pi}-\frac{12\,627\,\beta^{36}}{646\,\pi}+\frac{483\,\beta^{38}}{1292\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{720}{\pi}-\frac{957\,600\,\beta^2}{\pi}-\frac{162\,217\,440\,\beta^4}{\pi}-\frac{6\,795\,752\,040\,\beta^6}{\pi}-\frac{94\,234\,428\,288\,\beta^8}{\pi}-\frac{499\,728\,028\,800\,\beta^{10}}{\pi}-\frac{1\,070\,845\,776\,000\,\beta^{12}}{\pi}-\frac{894\,921\,112\,800\,\beta^{14}}{\pi}-\frac{232\,016\,584\,800\,\beta^{16}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(11,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{116\,611\,\beta^2}{3\,\pi}-\frac{329\,565\,214\,\beta^4}{15\,\pi}-\frac{83\,731\,900\,032\,\beta^6}{35\,\pi}-\frac{8\,119\,256\,763\,343\,\beta^8}{105\,\pi}-\frac{6\,438\,967\,645\,877\,\beta^{10}}{7\,\pi}-\frac{1\,040\,761\,800\,852\,875\,\beta^{12}}{231\,\pi}-\frac{20\,363\,015\,305\,254\,554\,\beta^{14}}{2145\,\pi}-\frac{2\,764\,199\,394\,532\,027\,\beta^{16}}{330\,\pi}-\frac{191\,857\,462\,311\,338\,711\,\beta^{18}}{72\,930\,\pi}-\frac{16\,228\,302\,321\,444\,859\,\beta^{20}}{138\,567\,\pi}+\frac{1\,411\,877\,011\,417\,924\,\beta^{22}}{138\,567\,\pi}-\frac{54\,280\,285\,113\,803\,\beta^{24}}{41\,990\,\pi}+\frac{22\,363\,649\,677\,847\,\beta^{26}}{125\,970\,\pi}-\frac{225\,779\,673\,443\,\beta^{28}}{9690\,\pi}+\frac{11\,393\,239\,865\,\beta^{30}}{4199\,\pi}-\frac{20\,106\,715\,\beta^{32}}{76\,\pi}+\frac{184\,245\,571\,\beta^{34}}{9044\,\pi}-\frac{2\,597\,597\,\beta^{36}}{2261\,\pi}+\frac{94\,714\,\beta^{38}}{2261\,\pi}-\frac{3335\,\beta^{40}}{4522\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{840}{\pi}+\frac{1\,524\,600\,\beta^2}{\pi}+\frac{355\,333\,440\,\beta^4}{\pi}+\frac{20\,787\,006\,240\,\beta^6}{\pi}+\frac{412\,275\,623\,760\,\beta^8}{\pi}+\frac{3\,248\,232\,187\,200\,\beta^{10}}{\pi}+\frac{11\,014\,413\,696\,000\,\beta^{12}}{\pi}+\frac{16\,383\,940\,372\,800\,\beta^{14}}{\pi}+\frac{10\,092\,721\,438\,800\,\beta^{16}}{\pi}+\frac{2\,018\,544\,287\,760\,\beta^{18}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,15,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{117\,\beta^2}{\pi}-\frac{1222\,\beta^4}{3\,\pi}+\frac{114\,686\,\beta^6}{105\,\pi}-\frac{68\,211\,\beta^8}{35\,\pi}+\frac{740\,948\,\beta^{10}}{315\,\pi}-\frac{1\,365\,005\,\beta^{12}}{693\,\pi}+\frac{499\,357\,\beta^{14}}{429\,\pi}-\frac{6\,285\,701\,\beta^{16}}{12\,870\,\pi}+\frac{930\,199\,\beta^{18}}{6435\,\pi}-\frac{147\,594\,\beta^{20}}{5005\,\pi}+\frac{11\,846\,\beta^{22}}{3003\,\pi}-\frac{85\,\beta^{24}}{273\,\pi}+\frac{\beta^{26}}{91\,\pi}\right)-\frac{14\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(13,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{2159\,\beta^2}{3\,\pi}-\frac{47\,138\,\beta^4}{15\,\pi}+\frac{24\,258\,\beta^6}{5\,\pi}-\frac{786\,071\,\beta^8}{105\,\pi}+\frac{188\,240\,\beta^{10}}{21\,\pi}-\frac{614\,139\,\beta^{12}}{77\,\pi}+\frac{78\,684\,869\,\beta^{14}}{15\,015\,\pi}-\frac{990\,187\,\beta^{16}}{390\,\pi}+\frac{644\,999\,\beta^{18}}{715\,\pi}-\frac{33\,138\,\beta^{20}}{143\,\pi}+\frac{125\,618\,\beta^{22}}{3003\,\pi}-\frac{25\,167\,\beta^{24}}{5005\,\pi}+\frac{493\,\beta^{26}}{1365\,\pi}-\frac{16\,\beta^{28}}{1365\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{120}{\pi}+\frac{3360\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{5825\,\beta^2}{3\,\pi}+\frac{124\,765\,\beta^4}{3\,\pi}+\frac{613\,821\,\beta^6}{10\,\pi}-\frac{5\,514\,379\,\beta^8}{105\,\pi}+\frac{10\,835\,071\,\beta^{10}}{210\,\pi}-\frac{6\,716\,371\,\beta^{12}}{154\,\pi}+\frac{117\,753\,681\,\beta^{14}}{4004\,\pi}-\frac{231\,236\,983\,\beta^{16}}{15\,015\,\pi}+\frac{8\,825\,913\,\beta^{18}}{1430\,\pi}-\frac{8\,005\,453\,\beta^{20}}{4290\,\pi}+\frac{5\,009\,633\,\beta^{22}}{12\,012\,\pi}-\frac{133\,467\,\beta^{24}}{2002\,\pi}+\frac{432\,409\,\beta^{26}}{60\,060\,\pi}-\frac{2567\,\beta^{28}}{5460\,\pi}+\frac{51\,\beta^{30}}{3640\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{192}{\pi}-\frac{16\,320\,\beta^2}{\pi}-\frac{114\,240\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{3975\,\beta^2}{\pi}-\frac{602\,315\,\beta^4}{3\,\pi}-\frac{41\,587\,933\,\beta^6}{30\,\pi}-\frac{33\,102\,732\,\beta^8}{35\,\pi}+\frac{161\,345\,236\,\beta^{10}}{315\,\pi}-\frac{34\,262\,632\,\beta^{12}}{99\,\pi}+\frac{8\,429\,494\,\beta^{14}}{39\,\pi}-\frac{86\,999\,991\,322\,\beta^{16}}{765\,765\,\pi}+\frac{36\,971\,557\,801\,\beta^{18}}{765\,765\,\pi}-\frac{196\,850\,449\,\beta^{20}}{12\,155\,\pi}+\frac{142\,908\,165\,\beta^{22}}{34\,034\,\pi}-\frac{13\,963\,373\,\beta^{24}}{17\,017\,\pi}+\frac{1\,416\,328\,\beta^{26}}{12\,155\,\pi}-\frac{137\,669\,\beta^{28}}{12\,155\,\pi}+\frac{5206\,\beta^{30}}{7735\,\pi}-\frac{57\,\beta^{32}}{3094\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{272}{\pi}+\frac{48\,960\,\beta^2}{\pi}+\frac{930\,240\,\beta^4}{\pi}+\frac{2\,713\,200\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{7033\,\beta^2}{\pi}+\frac{3\,334\,718\,\beta^4}{5\,\pi}+\frac{51\,331\,636\,\beta^6}{5\,\pi}+\frac{10\,270\,323\,299\,\beta^8}{315\,\pi}+\frac{769\,283\,762\,\beta^{10}}{63\,\pi}-\frac{1\,053\,065\,306\,\beta^{12}}{231\,\pi}+\frac{9\,183\,346\,348\,\beta^{14}}{4095\,\pi}-\frac{48\,375\,507\,209\,\beta^{16}}{45\,045\,\pi}+\frac{5\,483\,417\,772\,\beta^{18}}{12\,155\,\pi}-\frac{1\,154\,176\,949\,\beta^{20}}{7293\,\pi}+\frac{2\,295\,530\,924\,\beta^{22}}{51\,051\,\pi}-\frac{1\,715\,690\,961\,\beta^{24}}{170\,170\,\pi}+\frac{2\,654\,179\,897\,\beta^{26}}{1\,531\,530\,\pi}-\frac{336\,224\,209\,\beta^{28}}{1\,531\,530\,\pi}+\frac{89\,395\,\beta^{30}}{4641\,\pi}-\frac{8303\,\beta^{32}}{7956\,\pi}+\frac{209\,\beta^{34}}{7956\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{360}{\pi}-\frac{116\,280\,\beta^2}{\pi}-\frac{4\,341\,120\,\beta^4}{\pi}-\frac{32\,558\,400\,\beta^6}{\pi}-\frac{50\,139\,936\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{34\,051\,\beta^2}{3\,\pi}-\frac{5\,376\,770\,\beta^4}{3\,\pi}-\frac{49\,571\,072\,\beta^6}{\pi}-\frac{2\,383\,685\,639\,\beta^8}{7\,\pi}-\frac{12\,600\,213\,896\,\beta^{10}}{21\,\pi}-\frac{31\,792\,044\,182\,\beta^{12}}{231\,\pi}+\frac{112\,797\,697\,696\,\beta^{14}}{3003\,\pi}-\frac{10\,039\,225\,393\,\beta^{16}}{715\,\pi}+\frac{3\,680\,781\,463\,586\,\beta^{18}}{692\,835\,\pi}-\frac{1\,262\,144\,533\,277\,\beta^{20}}{692\,835\,\pi}+\frac{519\,612\,833\,386\,\beta^{22}}{969\,969\,\pi}-\frac{84\,308\,074\,065\,\beta^{24}}{646\,646\,\pi}+\frac{82\,417\,862\,227\,\beta^{26}}{3\,233\,230\,\pi}-\frac{3\,419\,377\,973\,\beta^{28}}{881\,790\,\pi}+\frac{1\,630\,952\,\beta^{30}}{3705\,\pi}-\frac{1\,762\,633\,\beta^{32}}{50\,388\,\pi}+\frac{29\,095\,\beta^{34}}{16\,796\,\pi}-\frac{506\,\beta^{36}}{12\,597\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{456}{\pi}+\frac{239\,400\,\beta^2}{\pi}+\frac{15\,193\,920\,\beta^4}{\pi}+\frac{214\,885\,440\,\beta^6}{\pi}+\frac{823\,727\,520\,\beta^8}{\pi}+\frac{768\,812\,352\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{17\,183\,\beta^2}{\pi}+\frac{62\,778\,059\,\beta^4}{15\,\pi}+\frac{39\,096\,686\,327\,\beta^6}{210\,\pi}+\frac{78\,307\,617\,256\,\beta^8}{35\,\pi}+\frac{527\,381\,312\,852\,\beta^{10}}{63\,\pi}+\frac{6\,369\,777\,435\,872\,\beta^{12}}{693\,\pi}+\frac{996\,252\,689\,596\,\beta^{14}}{715\,\pi}-\frac{169\,709\,701\,222\,\beta^{16}}{585\,\pi}+\frac{9\,316\,728\,413\,743\,\beta^{18}}{109\,395\,\pi}-\frac{25\,303\,480\,845\,887\,\beta^{20}}{969\,969\,\pi}+\frac{4\,807\,542\,617\,139\,\beta^{22}}{646\,646\,\pi}-\frac{3\,002\,822\,024\,217\,\beta^{24}}{1\,616\,615\,\pi}+\frac{57\,492\,803\,241\,\beta^{26}}{146\,965\,\pi}-\frac{12\,700\,590\,974\,\beta^{28}}{188\,955\,\pi}+\frac{688\,051\,865\,\beta^{30}}{75\,582\,\pi}-\frac{7\,812\,939\,\beta^{32}}{8398\,\pi}+\frac{298\,747\,\beta^{34}}{4446\,\pi}-\frac{230\,483\,\beta^{36}}{75\,582\,\pi}+\frac{253\,\beta^{38}}{3876\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{560}{\pi}-\frac{446\,880\,\beta^2}{\pi}-\frac{44\,241\,120\,\beta^4}{\pi}-\frac{1\,029\,659\,400\,\beta^6}{\pi}-\frac{7\,248\,802\,176\,\beta^8}{\pi}-\frac{16\,474\,550\,400\,\beta^{10}}{\pi}-\frac{10\,198\,531\,200\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{74\,425\,\beta^2}{3\,\pi}-\frac{26\,493\,785\,\beta^4}{3\,\pi}-\frac{41\,244\,612\,167\,\beta^6}{70\,\pi}-\frac{389\,661\,959\,797\,\beta^8}{35\,\pi}-\frac{15\,029\,805\,277\,721\,\beta^{10}}{210\,\pi}-\frac{76\,158\,140\,661\,901\,\beta^{12}}{462\,\pi}-\frac{209\,454\,739\,662\,359\,\beta^{14}}{1716\,\pi}-\frac{9\,247\,314\,478\,722\,\beta^{16}}{715\,\pi}+\frac{77\,363\,867\,368\,226\,\beta^{18}}{36\,465\,\pi}-\frac{347\,841\,328\,324\,478\,\beta^{20}}{692\,835\,\pi}+\frac{17\,598\,755\,509\,840\,\beta^{22}}{138\,567\,\pi}-\frac{128\,265\,000\,246\,\beta^{24}}{4199\,\pi}+\frac{137\,749\,755\,487\,\beta^{26}}{20\,995\,\pi}-\frac{76\,009\,603\,003\,\beta^{28}}{62\,985\,\pi}+\frac{23\,118\,926\,537\,\beta^{30}}{125\,970\,\pi}-\frac{280\,349\,461\,\beta^{32}}{12\,597\,\pi}+\frac{3\,556\,030\,\beta^{34}}{1729\,\pi}-\frac{919\,034\,\beta^{36}}{6783\,\pi}+\frac{25\,553\,\beta^{38}}{4522\,\pi}-\frac{253\,\beta^{40}}{2261\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{672}{\pi}+\frac{776\,160\,\beta^2}{\pi}+\frac{113\,060\,640\,\beta^4}{\pi}+\frac{3\,997\,501\,200\,\beta^6}{\pi}+\frac{45\,305\,013\,600\,\beta^8}{\pi}+\frac{185\,613\,267\,840\,\beta^{10}}{\pi}+\frac{275\,360\,342\,400\,\beta^{12}}{\pi}+\frac{120\,470\,149\,800\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(13,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{34\,525\,\beta^2}{\pi}+\frac{17\,249\,470\,\beta^4}{\pi}+\frac{8\,217\,315\,658\,\beta^6}{5\,\pi}+\frac{14\,391\,091\,820\,573\,\beta^8}{315\,\pi}+\frac{1\,574\,581\,970\,086\,814\,\beta^{10}}{3465\,\pi}+\frac{410\,053\,908\,892\,951\,\beta^{12}}{231\,\pi}+\frac{24\,628\,381\,785\,169\,381\,\beta^{14}}{9009\,\pi}+\frac{18\,600\,089\,425\,051\,781\,\beta^{16}}{12\,870\,\pi}+\frac{1\,358\,241\,630\,518\,433\,\beta^{18}}{12\,155\,\pi}-\frac{10\,262\,327\,662\,333\,537\,\beta^{20}}{692\,835\,\pi}+\frac{254\,431\,613\,250\,301\,\beta^{22}}{88\,179\,\pi}-\frac{36\,031\,815\,481\,671\,\beta^{24}}{58\,786\,\pi}+\frac{166\,723\,402\,163\,359\,\beta^{26}}{1\,322\,685\,\pi}-\frac{62\,212\,209\,935\,849\,\beta^{28}}{2\,645\,370\,\pi}+\frac{479\,802\,997\,723\,\beta^{30}}{125\,970\,\pi}-\frac{858\,152\,583\,355\,\beta^{32}}{1\,662\,804\,\pi}+\frac{3\,602\,561\,645\,\beta^{34}}{63\,954\,\pi}-\frac{117\,577\,587\,\beta^{36}}{24\,871\,\pi}+\frac{417\,013\,\beta^{38}}{1463\,\pi}-\frac{28\,681\,\beta^{40}}{2618\,\pi}+\frac{10\,005\,\beta^{42}}{49\,742\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{792}{\pi}-\frac{1\,275\,120\,\beta^2}{\pi}-\frac{261\,824\,640\,\beta^4}{\pi}-\frac{13\,325\,004\,000\,\beta^6}{\pi}-\frac{225\,192\,567\,600\,\beta^8}{\pi}-\frac{1\,461\,704\,484\,240\,\beta^{10}}{\pi}-\frac{3\,855\,044\,793\,600\,\beta^{12}}{\pi}-\frac{3\,992\,724\,964\,800\,\beta^{14}}{\pi}-\frac{1\,293\,938\,646\,000\,\beta^{16}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,17,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{155\,\beta^2}{\pi}-\frac{2107\,\beta^4}{3\,\pi}+\frac{74\,581\,\beta^6}{30\,\pi}-\frac{207\,051\,\beta^8}{35\,\pi}+\frac{6\,079\,151\,\beta^{10}}{630\,\pi}-\frac{15\,406\,793\,\beta^{12}}{1386\,\pi}+\frac{111\,174\,953\,\beta^{14}}{12\,012\,\pi}-\frac{36\,369\,329\,\beta^{16}}{6435\,\pi}+\frac{32\,780\,119\,\beta^{18}}{12\,870\,\pi}-\frac{1\,208\,137\,\beta^{20}}{1430\,\pi}+\frac{2\,445\,011\,\beta^{22}}{12\,012\,\pi}-\frac{18\,905\,\beta^{24}}{546\,\pi}+\frac{7171\,\beta^{26}}{1820\,\pi}-\frac{113\,\beta^{28}}{420\,\pi}+\frac{\beta^{30}}{120\,\pi}\right)-\frac{16\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(15,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{929\,\beta^2}{\pi}-\frac{15\,992\,\beta^4}{3\,\pi}+\frac{157\,888\,\beta^6}{15\,\pi}-\frac{740\,844\,\beta^8}{35\,\pi}+\frac{10\,532\,834\,\beta^{10}}{315\,\pi}-\frac{138\,001\,102\,\beta^{12}}{3465\,\pi}+\frac{107\,179\,978\,\beta^{14}}{3003\,\pi}-\frac{18\,511\,050\,401\,\beta^{16}}{765\,765\,\pi}+\frac{123\,424\,111\,\beta^{18}}{9945\,\pi}-\frac{58\,615\,581\,\beta^{20}}{12\,155\,\pi}+\frac{359\,086\,303\,\beta^{22}}{255\,255\,\pi}-\frac{30\,921\,769\,\beta^{24}}{102\,102\,\pi}+\frac{360\,718\,\beta^{26}}{7735\,\pi}-\frac{225\,361\,\beta^{28}}{46\,410\,\pi}+\frac{1093\,\beta^{30}}{3570\,\pi}-\frac{3\,\beta^{32}}{340\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{136}{\pi}+\frac{4896\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{22\,181\,\beta^2}{9\,\pi}+\frac{606\,676\,\beta^4}{9\,\pi}+\frac{1\,948\,472\,\beta^6}{15\,\pi}-\frac{132\,601\,292\,\beta^8}{945\,\pi}+\frac{167\,950\,718\,\beta^{10}}{945\,\pi}-\frac{97\,218\,614\,\beta^{12}}{495\,\pi}+\frac{678\,990\,200\,\beta^{14}}{3861\,\pi}-\frac{1\,296\,156\,217\,\beta^{16}}{10\,395\,\pi}+\frac{17\,712\,938\,816\,\beta^{18}}{255\,255\,\pi}-\frac{3\,296\,177\,011\,\beta^{20}}{109\,395\,\pi}+\frac{7\,755\,840\,766\,\beta^{22}}{765\,765\,\pi}-\frac{88\,579\,805\,\beta^{24}}{34\,034\,\pi}+\frac{328\,783\,589\,\beta^{26}}{656\,370\,\pi}-\frac{320\,401\,\beta^{28}}{4590\,\pi}+\frac{462\,634\,\beta^{30}}{69\,615\,\pi}-\frac{24\,833\,\beta^{32}}{64\,260\,\pi}+\frac{19\,\beta^{34}}{1836\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{216}{\pi}-\frac{23\,256\,\beta^2}{\pi}-\frac{206\,720\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{4975\,\beta^2}{\pi}-\frac{947\,083\,\beta^4}{3\,\pi}-\frac{82\,744\,691\,\beta^6}{30\,\pi}-\frac{85\,521\,764\,\beta^8}{35\,\pi}+\frac{521\,233\,192\,\beta^{10}}{315\,\pi}-\frac{989\,988\,268\,\beta^{12}}{693\,\pi}+\frac{3\,475\,549\,598\,\beta^{14}}{3003\,\pi}-\frac{36\,136\,848\,782\,\beta^{16}}{45\,045\,\pi}+\frac{953\,442\,412\,159\,\beta^{18}}{2\,078\,505\,\pi}-\frac{49\,062\,721\,017\,\beta^{20}}{230\,945\,\pi}+\frac{152\,642\,035\,655\,\beta^{22}}{1\,939\,938\,\pi}-\frac{22\,321\,322\,215\,\beta^{24}}{969\,969\,\pi}+\frac{8\,453\,548\,193\,\beta^{26}}{1\,616\,615\,\pi}-\frac{1\,192\,973\,276\,\beta^{28}}{1\,322\,685\,\pi}+\frac{150\,672\,917\,\beta^{30}}{1\,322\,685\,\pi}-\frac{250\,009\,\beta^{32}}{25\,194\,\pi}+\frac{3095\,\beta^{34}}{5814\,\pi}-\frac{77\,\beta^{36}}{5814\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{304}{\pi}+\frac{68\,400\,\beta^2}{\pi}+\frac{1\,627\,920\,\beta^4}{\pi}+\frac{5\,969\,040\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{8695\,\beta^2}{\pi}+\frac{76\,668\,487\,\beta^4}{75\,\pi}+\frac{2\,939\,822\,803\,\beta^6}{150\,\pi}+\frac{13\,676\,187\,528\,\beta^8}{175\,\pi}+\frac{11\,913\,716\,756\,\beta^{10}}{315\,\pi}-\frac{60\,735\,372\,184\,\beta^{12}}{3465\,\pi}+\frac{821\,011\,410\,416\,\beta^{14}}{75\,075\,\pi}-\frac{217\,143\,524\,222\,\beta^{16}}{32\,175\,\pi}+\frac{184\,790\,165\,423\,\beta^{18}}{49\,725\,\pi}-\frac{1\,208\,733\,690\,523\,\beta^{20}}{692\,835\,\pi}+\frac{6\,605\,160\,270\,623\,\beta^{22}}{9\,699\,690\,\pi}-\frac{1\,052\,908\,557\,457\,\beta^{24}}{4\,849\,845\,\pi}+\frac{1\,634\,500\,242\,\beta^{26}}{29\,393\,\pi}-\frac{14\,849\,219\,029\,\beta^{28}}{1\,322\,685\,\pi}+\frac{658\,037\,573\,\beta^{30}}{377\,910\,\pi}-\frac{25\,168\,379\,\beta^{32}}{125\,970\,\pi}+\frac{15\,070\,616\,\beta^{34}}{944\,775\,\pi}-\frac{57\,431\,\beta^{36}}{72\,675\,\pi}+\frac{1771\,\beta^{38}}{96\,900\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{400}{\pi}-\frac{159\,600\,\beta^2}{\pi}-\frac{7\,373\,520\,\beta^4}{\pi}-\frac{68\,643\,960\,\beta^6}{\pi}-\frac{658\,982\,016\,\beta^8}{5\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{124\,925\,\beta^2}{9\,\pi}-\frac{24\,175\,804\,\beta^4}{9\,\pi}-\frac{9\,594\,290\,176\,\beta^6}{105\,\pi}-\frac{244\,463\,099\,096\,\beta^8}{315\,\pi}-\frac{537\,236\,719\,168\,\beta^{10}}{315\,\pi}-\frac{116\,264\,089\,666\,\beta^{12}}{231\,\pi}+\frac{654\,702\,153\,596\,\beta^{14}}{3861\,\pi}-\frac{1\,542\,412\,689\,313\,\beta^{16}}{19\,305\,\pi}+\frac{4\,237\,652\,485\,006\,\beta^{18}}{109\,395\,\pi}-\frac{756\,101\,813\,931\,623\,\beta^{20}}{43\,648\,605\,\pi}+\frac{59\,226\,507\,770\,380\,\beta^{22}}{8\,729\,721\,\pi}-\frac{132\,761\,191\,935\,\beta^{24}}{58\,786\,\pi}+\frac{551\,347\,017\,203\,\beta^{26}}{881\,790\,\pi}-\frac{17\,786\,446\,637\,\beta^{28}}{125\,970\,\pi}+\frac{1\,603\,155\,277\,\beta^{30}}{62\,985\,\pi}-\frac{1\,615\,982\,327\,\beta^{32}}{453\,492\,\pi}+\frac{1\,182\,530\,855\,\beta^{34}}{3\,174\,444\,\pi}-\frac{555\,841\,\beta^{36}}{20\,349\,\pi}+\frac{76\,406\,\beta^{38}}{61\,047\,\pi}-\frac{3289\,\beta^{40}}{122\,094\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{504}{\pi}+\frac{323\,400\,\beta^2}{\pi}+\frac{75\,373\,760\,\beta^4}{3\,\pi}+\frac{436\,091\,040\,\beta^6}{\pi}+\frac{2\,059\,318\,800\,\beta^8}{\pi}+\frac{2\,379\,657\,280\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{20\,809\,\beta^2}{\pi}+\frac{18\,446\,032\,\beta^4}{3\,\pi}+\frac{4\,991\,204\,512\,\beta^6}{15\,\pi}+\frac{24\,422\,621\,112\,\beta^8}{5\,\pi}+\frac{11\,114\,628\,397\,648\,\beta^{10}}{495\,\pi}+\frac{15\,133\,284\,122\,306\,\beta^{12}}{495\,\pi}+\frac{2\,547\,611\,120\,390\,\beta^{14}}{429\,\pi}-\frac{9\,778\,408\,105\,021\,\beta^{16}}{6435\,\pi}+\frac{61\,198\,194\,637\,469\,\beta^{18}}{109\,395\,\pi}-\frac{1\,059\,723\,240\,434\,641\,\beta^{20}}{4\,849\,845\,\pi}+\frac{35\,644\,405\,085\,123\,\beta^{22}}{440\,895\,\pi}-\frac{4\,724\,644\,535\,075\,\beta^{24}}{176\,358\,\pi}+\frac{1\,129\,740\,380\,073\,\beta^{26}}{146\,965\,\pi}-\frac{2\,180\,317\,063\,\beta^{28}}{1170\,\pi}+\frac{141\,105\,472\,631\,\beta^{30}}{377\,910\,\pi}-\frac{167\,391\,122\,447\,\beta^{32}}{2\,771\,340\,\pi}+\frac{3\,430\,320\,947\,\beta^{34}}{447\,678\,\pi}-\frac{163\,849\,999\,\beta^{36}}{223\,839\,\pi}+\frac{3\,686\,831\,\beta^{38}}{74\,613\,\pi}-\frac{104\,351\,\beta^{40}}{49\,742\,\pi}+\frac{299\,\beta^{42}}{7106\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{616}{\pi}-\frac{595\,056\,\beta^2}{\pi}-\frac{71\,406\,720\,\beta^4}{\pi}-\frac{2\,018\,940\,000\,\beta^6}{\pi}-\frac{17\,322\,505\,200\,\beta^8}{\pi}-\frac{48\,188\,059\,920\,\beta^{10}}{\pi}-\frac{36\,714\,712\,320\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(15,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{29\,779\,\beta^2}{\pi}-\frac{38\,229\,457\,\beta^4}{3\,\pi}-\frac{30\,732\,057\,329\,\beta^6}{30\,\pi}-\frac{818\,975\,483\,399\,\beta^8}{35\,\pi}-\frac{115\,080\,189\,586\,297\,\beta^{10}}{630\,\pi}-\frac{3\,562\,713\,672\,284\,209\,\beta^{12}}{6930\,\pi}-\frac{5\,641\,425\,829\,662\,523\,\beta^{14}}{12\,012\,\pi}-\frac{31\,445\,672\,849\,318\,\beta^{16}}{495\,\pi}+\frac{1\,396\,107\,470\,516\,116\,\beta^{18}}{109\,395\,\pi}-\frac{870\,860\,803\,000\,944\,\beta^{20}}{230\,945\,\pi}+\frac{135\,116\,705\,692\,832\,956\,\beta^{22}}{111\,546\,435\,\pi}-\frac{764\,069\,058\,641\,134\,\beta^{24}}{2\,028\,117\,\pi}+\frac{361\,448\,709\,711\,041\,\beta^{26}}{3\,380\,195\,\pi}-\frac{62\,491\,312\,223\,971\,\beta^{28}}{2\,340\,135\,\pi}+\frac{49\,643\,397\,185\,507\,\beta^{30}}{8\,691\,930\,\pi}-\frac{113\,830\,633\,877\,\beta^{32}}{111\,435\,\pi}+\frac{109\,582\,598\,695\,\beta^{34}}{735\,471\,\pi}-\frac{88\,516\,839\,883\,\beta^{36}}{5\,148\,297\,\pi}+\frac{1\,722\,452\,463\,\beta^{38}}{1\,144\,066\,\pi}-\frac{53\,650\,111\,\beta^{40}}{572\,033\,\pi}+\frac{2\,114\,593\,\beta^{42}}{572\,033\,\pi}-\frac{5655\,\beta^{44}}{81\,719\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{736}{\pi}+\frac{1\,020\,096\,\beta^2}{\pi}+\frac{178\,516\,800\,\beta^4}{\pi}+\frac{7\,597\,590\,000\,\beta^6}{\pi}+\frac{103\,935\,031\,200\,\beta^8}{\pi}+\frac{515\,895\,700\,320\,\beta^{10}}{\pi}+\frac{931\,635\,825\,120\,\beta^{12}}{\pi}+\frac{499\,090\,620\,600\,\beta^{14}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,19,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{595\,\beta^2}{3\,\pi}-\frac{3400\,\beta^4}{3\,\pi}+\frac{25\,568\,\beta^6}{5\,\pi}-\frac{4\,919\,732\,\beta^8}{315\,\pi}+\frac{10\,390\,094\,\beta^{10}}{315\,\pi}-\frac{11\,494\,414\,\beta^{12}}{231\,\pi}+\frac{496\,040\,858\,\beta^{14}}{9009\,\pi}-\frac{293\,105\,737\,\beta^{16}}{6435\,\pi}+\frac{346\,590\,103\,\beta^{18}}{12\,155\,\pi}-\frac{165\,143\,971\,\beta^{20}}{12\,155\,\pi}+\frac{83\,794\,523\,\beta^{22}}{17\,017\,\pi}-\frac{4\,166\,823\,\beta^{24}}{3094\,\pi}+\frac{19\,015\,376\,\beta^{26}}{69\,615\,\pi}-\frac{426\,337\,\beta^{28}}{10\,710\,\pi}+\frac{2009\,\beta^{30}}{510\,\pi}-\frac{145\,\beta^{32}}{612\,\pi}+\frac{\beta^{34}}{153\,\pi}\right)-\frac{18\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(17,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{1165\,\beta^2}{\pi}-\frac{8500\,\beta^4}{\pi}+\frac{104\,312\,\beta^6}{5\,\pi}-\frac{1\,852\,252\,\beta^8}{35\,\pi}+\frac{33\,502\,886\,\beta^{10}}{315\,\pi}-\frac{112\,773\,614\,\beta^{12}}{693\,\pi}+\frac{81\,341\,872\,\beta^{14}}{429\,\pi}-\frac{7\,637\,417\,881\,\beta^{16}}{45\,045\,\pi}+\frac{243\,621\,241\,412\,\beta^{18}}{2\,078\,505\,\pi}-\frac{14\,528\,977\,231\,\beta^{20}}{230\,945\,\pi}+\frac{25\,437\,883\,150\,\beta^{22}}{969\,969\,\pi}-\frac{16\,396\,141\,019\,\beta^{24}}{1\,939\,938\,\pi}+\frac{47\,096\,551\,\beta^{26}}{22\,610\,\pi}-\frac{145\,471\,523\,\beta^{28}}{377\,910\,\pi}+\frac{5\,249\,152\,\beta^{30}}{101\,745\,\pi}-\frac{1079\,\beta^{32}}{228\,\pi}+\frac{3089\,\beta^{34}}{11\,628\,\pi}-\frac{20\,\beta^{36}}{2907\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{152}{\pi}+\frac{6840\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{9149\,\beta^2}{3\,\pi}+\frac{1\,555\,487\,\beta^4}{15\,\pi}+\frac{2\,528\,121\,\beta^6}{10\,\pi}-\frac{35\,249\,636\,\beta^8}{105\,\pi}+\frac{3\,720\,960\,\beta^{10}}{7\,\pi}-\frac{57\,107\,692\,\beta^{12}}{77\,\pi}+\frac{2\,544\,408\,598\,\beta^{14}}{3003\,\pi}-\frac{111\,008\,374\,\beta^{16}}{143\,\pi}+\frac{1\,378\,748\,763\,\beta^{18}}{2431\,\pi}-\frac{45\,706\,304\,165\,\beta^{20}}{138\,567\,\pi}+\frac{295\,664\,815\,637\,\beta^{22}}{1\,939\,938\,\pi}-\frac{90\,064\,790\,007\,\beta^{24}}{1\,616\,615\,\pi}+\frac{414\,519\,649\,\beta^{26}}{25\,935\,\pi}-\frac{1\,565\,422\,246\,\beta^{28}}{440\,895\,\pi}+\frac{2\,509\,582\,\beta^{30}}{4199\,\pi}-\frac{142\,667\,\beta^{32}}{1938\,\pi}+\frac{20\,199\,\beta^{34}}{3230\,\pi}-\frac{1057\,\beta^{36}}{3230\,\pi}+\frac{77\,\beta^{38}}{9690\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{240}{\pi}-\frac{31\,920\,\beta^2}{\pi}-\frac{351\,120\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{6087\,\beta^2}{\pi}-\frac{473\,997\,\beta^4}{\pi}-\frac{357\,715\,843\,\beta^6}{70\,\pi}-\frac{598\,792\,904\,\beta^8}{105\,\pi}+\frac{164\,759\,716\,\beta^{10}}{35\,\pi}-\frac{1\,164\,665\,648\,\beta^{12}}{231\,\pi}+\frac{6\,593\,604\,428\,\beta^{14}}{1287\,\pi}-\frac{28\,984\,952\,314\,\beta^{16}}{6435\,\pi}+\frac{40\,234\,574\,851\,\beta^{18}}{12\,155\,\pi}-\frac{29\,136\,278\,566\,709\,\beta^{20}}{14\,549\,535\,\pi}+\frac{5\,755\,130\,285\,939\,\beta^{22}}{5\,819\,814\,\pi}-\frac{11\,635\,207\,275\,\beta^{24}}{29\,393\,\pi}+\frac{18\,729\,038\,376\,\beta^{26}}{146\,965\,\pi}-\frac{158\,149\,469\,\beta^{28}}{4845\,\pi}+\frac{824\,935\,043\,\beta^{30}}{125\,970\,\pi}-\frac{75\,980\,251\,\beta^{32}}{75\,582\,\pi}+\frac{2\,317\,061\,\beta^{34}}{20\,349\,\pi}-\frac{101\,288\,\beta^{36}}{11\,305\,\pi}+\frac{9361\,\beta^{38}}{21\,420\,\pi}-\frac{1012\,\beta^{40}}{101\,745\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{336}{\pi}+\frac{92\,400\,\beta^2}{\pi}+\frac{2\,691\,920\,\beta^4}{\pi}+\frac{12\,113\,640\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{10\,533\,\beta^2}{\pi}+\frac{22\,550\,692\,\beta^4}{15\,\pi}+\frac{526\,776\,704\,\beta^6}{15\,\pi}+\frac{6\,009\,310\,808\,\beta^8}{35\,\pi}+\frac{72\,258\,045\,760\,\beta^{10}}{693\,\pi}-\frac{40\,555\,352\,218\,\beta^{12}}{693\,\pi}+\frac{135\,147\,079\,876\,\beta^{14}}{3003\,\pi}-\frac{44\,575\,805\,057\,\beta^{16}}{1287\,\pi}+\frac{526\,533\,768\,766\,\beta^{18}}{21\,879\,\pi}-\frac{2\,002\,551\,031\,115\,\beta^{20}}{138\,567\,\pi}+\frac{1\,940\,784\,486\,448\,\beta^{22}}{264\,537\,\pi}-\frac{432\,425\,420\,239\,\beta^{24}}{139\,230\,\pi}+\frac{318\,827\,263\,347\,\beta^{26}}{293\,930\,\pi}-\frac{62\,908\,520\,827\,\beta^{28}}{203\,490\,\pi}+\frac{2\,681\,878\,963\,\beta^{30}}{37\,791\,\pi}-\frac{7\,146\,471\,227\,\beta^{32}}{554\,268\,\pi}+\frac{1\,156\,644\,947\,\beta^{34}}{639\,540\,\pi}-\frac{211\,128\,293\,\beta^{36}}{1\,119\,195\,\pi}+\frac{5\,133\,922\,\beta^{38}}{373\,065\,\pi}-\frac{280\,255\,\beta^{40}}{447\,678\,\pi}+\frac{2990\,\beta^{42}}{223\,839\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{440}{\pi}-\frac{212\,520\,\beta^2}{\pi}-\frac{11\,901\,120\,\beta^4}{\pi}-\frac{134\,596\,000\,\beta^6}{\pi}-\frac{314\,954\,640\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{16\,665\,\beta^2}{\pi}-\frac{3\,878\,640\,\beta^4}{\pi}-\frac{795\,537\,248\,\beta^6}{5\,\pi}-\frac{171\,820\,482\,776\,\beta^8}{105\,\pi}-\frac{153\,462\,966\,416\,\beta^{10}}{35\,\pi}-\frac{373\,753\,431\,218\,\beta^{12}}{231\,\pi}+\frac{5\,917\,238\,763\,242\,\beta^{14}}{9009\,\pi}-\frac{2\,441\,346\,162\,643\,\beta^{16}}{6435\,\pi}+\frac{2\,774\,385\,178\,087\,\beta^{18}}{12\,155\,\pi}-\frac{266\,488\,991\,254\,859\,\beta^{20}}{2\,078\,505\,\pi}+\frac{4\,281\,120\,969\,063\,635\,\beta^{22}}{66\,927\,861\,\pi}-\frac{37\,298\,724\,488\,409\,\beta^{24}}{1\,352\,078\,\pi}+\frac{2\,009\,215\,741\,011\,\beta^{26}}{198\,835\,\pi}-\frac{62\,888\,262\,182\,201\,\beta^{28}}{20\,281\,170\,\pi}+\frac{2\,279\,024\,202\,601\,\beta^{30}}{2\,897\,310\,\pi}-\frac{43\,458\,496\,207\,\beta^{32}}{267\,444\,\pi}+\frac{39\,452\,197\,111\,\beta^{34}}{1\,470\,942\,\pi}-\frac{1\,971\,199\,999\,\beta^{36}}{572\,033\,\pi}+\frac{1\,707\,115\,433\,\beta^{38}}{5\,148\,297\,\pi}-\frac{12\,169\,573\,\beta^{40}}{541\,926\,\pi}+\frac{1\,091\,025\,\beta^{42}}{1\,144\,066\,\pi}-\frac{1560\,\beta^{44}}{81\,719\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{552}{\pi}+\frac{425\,040\,\beta^2}{\pi}+\frac{39\,670\,400\,\beta^4}{\pi}+\frac{828\,828\,000\,\beta^6}{\pi}+\frac{4\,724\,319\,600\,\beta^8}{\pi}+\frac{6\,614\,047\,440\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(17,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{74\,345\,\beta^2}{3\,\pi}+\frac{26\,197\,945\,\beta^4}{3\,\pi}+\frac{5\,648\,300\,931\,\beta^6}{10\,\pi}+\frac{149\,119\,488\,343\,\beta^8}{15\,\pi}+\frac{550\,429\,093\,371\,\beta^{10}}{10\,\pi}+\frac{2\,000\,449\,240\,447\,\beta^{12}}{22\,\pi}+\frac{37\,775\,470\,204\,897\,\beta^{14}}{1716\,\pi}-\frac{439\,401\,207\,498\,\beta^{16}}{65\,\pi}+\frac{36\,912\,449\,877\,438\,\beta^{18}}{12\,155\,\pi}-\frac{7\,107\,608\,500\,239\,634\,\beta^{20}}{4\,849\,845\,\pi}+\frac{658\,030\,209\,583\,951\,\beta^{22}}{969\,969\,\pi}-\frac{2\,121\,680\,600\,666\,808\,\beta^{24}}{7\,436\,429\,\pi}+\frac{82\,449\,458\,104\,558\,\beta^{26}}{780\,045\,\pi}-\frac{48\,952\,691\,709\,416\,\beta^{28}}{1\,448\,655\,\pi}+\frac{340\,716\,120\,868\,\beta^{30}}{37\,145\,\pi}-\frac{143\,662\,045\,\beta^{32}}{69\,\pi}+\frac{13\,078\,873\,228\,\beta^{34}}{33\,649\,\pi}-\frac{33\,450\,097\,216\,\beta^{36}}{572\,033\,\pi}+\frac{1\,076\,370\,049\,\beta^{38}}{156\,009\,\pi}-\frac{351\,066\,586\,\beta^{40}}{572\,033\,\pi}+\frac{6\,316\,245\,\beta^{42}}{163\,438\,\pi}-\frac{13\,195\,\beta^{44}}{8602\,\pi}+\frac{9425\,\beta^{46}}{326\,876\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{672}{\pi}-\frac{772\,800\,\beta^2}{\pi}-\frac{110\,510\,400\,\beta^4}{\pi}-\frac{3\,729\,726\,000\,\beta^6}{\pi}-\frac{38\,291\,853\,600\,\beta^8}{\pi}-\frac{127\,871\,583\,840\,\beta^{10}}{\pi}-\frac{117\,433\,087\,200\,\beta^{12}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(19,21,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{247\,\beta^2}{\pi}-\frac{8683\,\beta^4}{5\,\pi}+\frac{97\,223\,\beta^6}{10\,\pi}-\frac{1\,295\,876\,\beta^8}{35\,\pi}+\frac{6\,179\,636\,\beta^{10}}{63\,\pi}-\frac{129\,639\,280\,\beta^{12}}{693\,\pi}+\frac{793\,621\,982\,\beta^{14}}{3003\,\pi}-\frac{363\,711\,490\,\beta^{16}}{1287\,\pi}+\frac{5\,082\,742\,097\,\beta^{18}}{21\,879\,\pi}-\frac{6\,849\,412\,997\,\beta^{20}}{46\,189\,\pi}+\frac{143\,338\,092\,775\,\beta^{22}}{1\,939\,938\,\pi}-\frac{12\,675\,224\,813\,\beta^{24}}{440\,895\,\pi}+\frac{1\,277\,497\,918\,\beta^{26}}{146\,965\,\pi}-\frac{205\,480\,223\,\beta^{28}}{101\,745\,\pi}+\frac{1\,027\,261\,\beta^{30}}{2907\,\pi}-\frac{87\,253\,\beta^{32}}{1938\,\pi}+\frac{57\,269\,\beta^{34}}{14\,535\,\pi}-\frac{181\,\beta^{36}}{855\,\pi}+\frac{\beta^{38}}{190\,\pi}\right)-\frac{20\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(19,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{4283\,\beta^2}{3\,\pi}-\frac{38\,722\,\beta^4}{3\,\pi}+\frac{1\,347\,708\,\beta^6}{35\,\pi}-\frac{12\,616\,057\,\beta^8}{105\,\pi}+\frac{10\,460\,678\,\beta^{10}}{35\,\pi}-\frac{43\,878\,258\,\beta^{12}}{77\,\pi}+\frac{357\,908\,548\,\beta^{14}}{429\,\pi}-\frac{2\,031\,589\,459\,\beta^{16}}{2145\,\pi}+\frac{10\,234\,140\,608\,\beta^{18}}{12\,155\,\pi}-\frac{2\,864\,098\,330\,699\,\beta^{20}}{4\,849\,845\,\pi}+\frac{106\,151\,188\,664\,\beta^{22}}{323\,323\,\pi}-\frac{8\,515\,030\,947\,\beta^{24}}{58\,786\,\pi}+\frac{44\,604\,574\,793\,\beta^{26}}{881\,790\,\pi}-\frac{92\,047\,633\,\beta^{28}}{6630\,\pi}+\frac{4\,773\,933\,\beta^{30}}{1615\,\pi}-\frac{1\,852\,189\,\beta^{32}}{3876\,\pi}+\frac{1\,536\,833\,\beta^{34}}{27\,132\,\pi}-\frac{52\,454\,\beta^{36}}{11\,305\,\pi}+\frac{156\,\beta^{38}}{665\,\pi}-\frac{11\,\beta^{40}}{1995\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{168}{\pi}+\frac{9240\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(19,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{3697\,\beta^2}{\pi}+\frac{152\,966\,\beta^4}{\pi}+\frac{2\,301\,128\,\beta^6}{5\,\pi}-\frac{77\,250\,751\,\beta^8}{105\,\pi}+\frac{547\,516\,008\,\beta^{10}}{385\,\pi}-\frac{2\,818\,231\,202\,\beta^{12}}{1155\,\pi}+\frac{31\,113\,429\,784\,\beta^{14}}{9009\,\pi}-\frac{25\,449\,462\,239\,\beta^{16}}{6435\,\pi}+\frac{44\,369\,707\,154\,\beta^{18}}{12\,155\,\pi}-\frac{5\,648\,607\,229\,201\,\beta^{20}}{2\,078\,505\,\pi}+\frac{2\,161\,191\,469\,586\,\beta^{22}}{1\,322\,685\,\pi}-\frac{46\,638\,592\,309\,\beta^{24}}{58\,786\,\pi}+\frac{91\,241\,177\,387\,\beta^{26}}{293\,930\,\pi}-\frac{85\,858\,571\,987\,\beta^{28}}{881\,790\,\pi}+\frac{1\,528\,101\,722\,\beta^{30}}{62\,985\,\pi}-\frac{3\,026\,552\,839\,\beta^{32}}{639\,540\,\pi}+\frac{90\,350\,123\,\beta^{34}}{127\,908\,\pi}-\frac{9\,678\,968\,\beta^{36}}{124\,355\,\pi}+\frac{6\,672\,544\,\beta^{38}}{1\,119\,195\,\pi}-\frac{18\,653\,\beta^{40}}{65\,835\,\pi}+\frac{46\,\beta^{42}}{7315\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{264}{\pi}-\frac{42\,504\,\beta^2}{\pi}-\frac{566\,720\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(19,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{7311\,\beta^2}{\pi}-\frac{2\,056\,247\,\beta^4}{3\,\pi}-\frac{268\,087\,561\,\beta^6}{30\,\pi}-\frac{429\,247\,544\,\beta^8}{35\,\pi}+\frac{3\,810\,398\,852\,\beta^{10}}{315\,\pi}-\frac{10\,888\,286\,072\,\beta^{12}}{693\,\pi}+\frac{58\,624\,652\,456\,\beta^{14}}{3003\,\pi}-\frac{952\,987\,256\,114\,\beta^{16}}{45\,045\,\pi}+\frac{2\,115\,929\,510\,797\,\beta^{18}}{109\,395\,\pi}-\frac{10\,198\,039\,574\,207\,\beta^{20}}{692\,835\,\pi}+\frac{65\,286\,367\,533\,109\,\beta^{22}}{7\,045\,038\,\pi}-\frac{29\,258\,261\,171\,287\,\beta^{24}}{6\,084\,351\,\pi}+\frac{6\,926\,352\,038\,119\,\beta^{26}}{3\,380\,195\,\pi}-\frac{21\,703\,661\,376\,008\,\beta^{28}}{30\,421\,755\,\pi}+\frac{12\,257\,598\,904\,717\,\beta^{30}}{60\,843\,510\,\pi}-\frac{2\,034\,434\,261\,\beta^{32}}{44\,574\,\pi}+\frac{12\,008\,602\,043\,\beta^{34}}{1\,470\,942\,\pi}-\frac{57\,953\,612\,041\,\beta^{36}}{51\,482\,970\,\pi}+\frac{3\,958\,092\,547\,\beta^{38}}{34\,321\,980\,\pi}-\frac{212\,609\,308\,\beta^{40}}{25\,741\,485\,\pi}+\frac{111\,700\,\beta^{42}}{302\,841\,\pi}-\frac{260\,\beta^{44}}{33\,649\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{368}{\pi}+\frac{121\,440\,\beta^2}{\pi}+\frac{4\,250\,400\,\beta^4}{\pi}+\frac{23\,023\,000\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(19,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{12\,547\,\beta^2}{\pi}+\frac{10\,685\,047\,\beta^4}{5\,\pi}+\frac{597\,405\,193\,\beta^6}{10\,\pi}+\frac{36\,886\,849\,427\,\beta^8}{105\,\pi}+\frac{3\,661\,744\,923\,\beta^{10}}{14\,\pi}-\frac{80\,565\,195\,455\,\beta^{12}}{462\,\pi}+\frac{5\,827\,340\,309\,887\,\beta^{14}}{36\,036\,\pi}-\frac{1\,364\,117\,698\,726\,\beta^{16}}{9009\,\pi}+\frac{28\,531\,444\,616\,\beta^{18}}{221\,\pi}-\frac{39\,928\,441\,834\,508\,\beta^{20}}{415\,701\,\pi}+\frac{177\,795\,588\,275\,075\,\beta^{22}}{2\,909\,907\,\pi}-\frac{1\,221\,786\,082\,452\,688\,\beta^{24}}{37\,182\,145\,\pi}+\frac{50\,116\,683\,307\,814\,\beta^{26}}{3\,380\,195\,\pi}-\frac{3\,325\,735\,077\,352\,\beta^{28}}{596\,505\,\pi}+\frac{270\,594\,432\,422\,\beta^{30}}{156\,009\,\pi}-\frac{29\,572\,931\,891\,\beta^{32}}{66\,861\,\pi}+\frac{335\,807\,292\,377\,\beta^{34}}{3\,677\,355\,\pi}-\frac{42\,910\,817\,293\,\beta^{36}}{2\,860\,165\,\pi}+\frac{2\,592\,094\,661\,\beta^{38}}{1\,354\,815\,\pi}-\frac{85\,357\,190\,\beta^{40}}{468\,027\,\pi}+\frac{13\,979\,095\,\beta^{42}}{1\,144\,066\,\pi}-\frac{34\,515\,\beta^{44}}{67\,298\,\pi}+\frac{195\,\beta^{46}}{19\,228\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{480}{\pi}-\frac{276\,000\,\beta^2}{\pi}-\frac{18\,418\,400\,\beta^4}{\pi}-\frac{248\,648\,400\,\beta^6}{\pi}-\frac{696\,215\,520\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(19,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{59\,111\,\beta^2}{3\,\pi}-\frac{81\,443\,378\,\beta^4}{15\,\pi}-\frac{1\,321\,402\,002\,\beta^6}{5\,\pi}-\frac{339\,757\,220\,071\,\beta^8}{105\,\pi}-\frac{72\,653\,360\,258\,\beta^{10}}{7\,\pi}-\frac{360\,513\,262\,617\,\beta^{12}}{77\,\pi}+\frac{33\,744\,464\,300\,549\,\beta^{14}}{15\,015\,\pi}-\frac{6\,682\,704\,208\,907\,\beta^{16}}{4290\,\pi}+\frac{13\,798\,857\,331\,043\,\beta^{18}}{12\,155\,\pi}-\frac{107\,995\,332\,920\,039\,\beta^{20}}{138\,567\,\pi}+\frac{155\,183\,868\,208\,539\,\beta^{22}}{323\,323\,\pi}-\frac{96\,109\,831\,293\,351\,081\,\beta^{24}}{371\,821\,450\,\pi}+\frac{66\,870\,475\,210\,939\,577\,\beta^{26}}{557\,732\,175\,\pi}-\frac{369\,660\,372\,387\,751\,\beta^{28}}{7\,800\,450\,\pi}+\frac{1\,174\,972\,470\,861\,\beta^{30}}{74\,290\,\pi}-\frac{1\,968\,353\,408\,239\,\beta^{32}}{445\,740\,\pi}+\frac{543\,824\,186\,963\,\beta^{34}}{532\,950\,\pi}-\frac{2\,752\,837\,665\,829\,\beta^{36}}{14\,300\,825\,\pi}+\frac{416\,269\,987\,883\,\beta^{38}}{14\,300\,825\,\pi}-\frac{59\,006\,881\,739\,\beta^{40}}{17\,160\,990\,\pi}+\frac{1\,746\,578\,457\,\beta^{42}}{5\,720\,330\,\pi}-\frac{39\,127\,543\,\beta^{44}}{2\,042\,975\,\pi}+\frac{90\,857\,\beta^{46}}{120\,175\,\pi}-\frac{3393\,\beta^{48}}{240\,350\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{600}{\pi}+\frac{546\,000\,\beta^2}{\pi}+\frac{60\,278\,400\,\beta^4}{\pi}+\frac{1\,491\,890\,400\,\beta^6}{\pi}+\frac{10\,095\,125\,040\,\beta^8}{\pi}+\frac{16\,825\,208\,400\,\beta^{10}}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(21,23,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{301\,\beta^2}{\pi}-\frac{7658\,\beta^4}{3\,\pi}+\frac{260\,338\,\beta^6}{15\,\pi}-\frac{2\,819\,581\,\beta^8}{35\,\pi}+\frac{905\,301\,493\,\beta^{10}}{3465\,\pi}-\frac{425\,068\,646\,\beta^{12}}{693\,\pi}+\frac{3\,225\,541\,954\,\beta^{14}}{3003\,\pi}-\frac{9\,240\,893\,143\,\beta^{16}}{6435\,\pi}+\frac{163\,177\,197\,803\,\beta^{18}}{109\,395\,\pi}-\frac{281\,524\,591\,961\,\beta^{20}}{230\,945\,\pi}+\frac{69\,699\,083\,429\,\beta^{22}}{88\,179\,\pi}-\frac{72\,050\,387\,599\,\beta^{24}}{176\,358\,\pi}+\frac{24\,761\,315\,177\,\beta^{26}}{146\,965\,\pi}-\frac{11\,247\,880\,841\,\beta^{28}}{203\,490\,\pi}+\frac{416\,206\,211\,\beta^{30}}{29\,070\,\pi}-\frac{123\,168\,305\,\beta^{32}}{42\,636\,\pi}+\frac{14\,205\,157\,\beta^{34}}{31\,977\,\pi}-\frac{3\,308\,842\,\beta^{36}}{65\,835\,\pi}+\frac{28\,834\,\beta^{38}}{7315\,\pi}-\frac{221\,\beta^{40}}{1155\,\pi}+\frac{\beta^{42}}{231\,\pi}\right)-\frac{22\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(21,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{1717\,\beta^2}{\pi}-\frac{56\,518\,\beta^4}{3\,\pi}+\frac{1\,006\,346\,\beta^6}{15\,\pi}-\frac{8\,833\,803\,\beta^8}{35\,\pi}+\frac{239\,538\,643\,\beta^{10}}{315\,\pi}-\frac{6\,115\,319\,594\,\beta^{12}}{3465\,\pi}+\frac{1\,357\,422\,358\,\beta^{14}}{429\,\pi}-\frac{199\,599\,114\,887\,\beta^{16}}{45\,045\,\pi}+\frac{536\,329\,613\,299\,\beta^{18}}{109\,395\,\pi}-\frac{2\,997\,753\,643\,253\,\beta^{20}}{692\,835\,\pi}+\frac{26\,320\,020\,764\,153\,\beta^{22}}{8\,580\,495\,\pi}-\frac{7\,117\,008\,741\,727\,\beta^{24}}{4\,056\,234\,\pi}+\frac{2\,741\,739\,309\,472\,\beta^{26}}{3\,380\,195\,\pi}-\frac{2\,630\,508\,112\,811\,\beta^{28}}{8\,691\,930\,\pi}+\frac{24\,971\,648\,983\,\beta^{30}}{275\,310\,\pi}-\frac{9\,646\,589\,791\,\beta^{32}}{445\,740\,\pi}+\frac{5\,959\,061\,987\,\beta^{34}}{1\,470\,942\,\pi}-\frac{14\,970\,179\,594\,\beta^{36}}{25\,741\,485\,\pi}+\frac{1\,640\,582\,\beta^{38}}{26\,565\,\pi}-\frac{2\,305\,607\,\beta^{40}}{504\,735\,\pi}+\frac{797\,\beta^{42}}{3795\,\pi}-\frac{8\,\beta^{44}}{1771\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{184}{\pi}+\frac{12\,144\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(21,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{39\,659\,\beta^2}{9\,\pi}+\frac{1\,961\,851\,\beta^4}{9\,\pi}+\frac{23\,798\,951\,\beta^6}{30\,\pi}-\frac{472\,867\,879\,\beta^8}{315\,\pi}+\frac{2\,189\,664\,101\,\beta^{10}}{630\,\pi}-\frac{474\,088\,627\,\beta^{12}}{66\,\pi}+\frac{190\,180\,416\,457\,\beta^{14}}{15\,444\,\pi}-\frac{2\,322\,845\,573\,078\,\beta^{16}}{135\,135\,\pi}+\frac{14\,922\,899\,297\,846\,\beta^{18}}{765\,765\,\pi}-\frac{112\,147\,169\,631\,322\,\beta^{20}}{6\,235\,515\,\pi}+\frac{9\,102\,498\,693\,842\,\beta^{22}}{671\,517\,\pi}-\frac{9\,820\,187\,552\,914\,\beta^{24}}{1\,174\,173\,\pi}+\frac{18\,377\,373\,478\,052\,\beta^{26}}{4\,345\,965\,\pi}-\frac{7\,606\,772\,204\,606\,\beta^{28}}{4\,345\,965\,\pi}+\frac{461\,100\,132\,391\,\beta^{30}}{780\,045\,\pi}-\frac{227\,252\,191\,805\,\beta^{32}}{1\,404\,081\,\pi}+\frac{4\,615\,441\,334\,\beta^{34}}{129\,789\,\pi}-\frac{158\,886\,658\,522\,\beta^{36}}{25\,741\,485\,\pi}+\frac{127\,660\,435\,801\,\beta^{38}}{154\,448\,910\,\pi}-\frac{53\,417\,599\,\beta^{40}}{648\,945\,\pi}+\frac{165\,457\,\beta^{42}}{28\,842\,\pi}-\frac{7955\,\beta^{44}}{31\,878\,\pi}+\frac{325\,\beta^{46}}{63\,756\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{288}{\pi}-\frac{55\,200\,\beta^2}{\pi}-\frac{2\,631\,200\,\beta^4}{3\,\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(21,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{8647\,\beta^2}{\pi}-\frac{14\,410\,079\,\beta^4}{15\,\pi}-\frac{446\,900\,441\,\beta^6}{30\,\pi}-\frac{863\,039\,166\,\beta^8}{35\,\pi}+\frac{1\,801\,662\,818\,\beta^{10}}{63\,\pi}-\frac{4\,379\,451\,436\,\beta^{12}}{99\,\pi}+\frac{141\,314\,481\,263\,\beta^{14}}{2145\,\pi}-\frac{3\,877\,983\,940\,499\,\beta^{16}}{45\,045\,\pi}+\frac{73\,169\,580\,201\,031\,\beta^{18}}{765\,765\,\pi}-\frac{12\,329\,064\,962\,491\,\beta^{20}}{138\,567\,\pi}+\frac{134\,234\,493\,009\,751\,\beta^{22}}{1\,939\,938\,\pi}-\frac{25\,019\,877\,927\,243\,301\,\beta^{24}}{557\,732\,175\,\pi}+\frac{643\,093\,425\,827\,143\,\beta^{26}}{26\,558\,675\,\pi}-\frac{18\,155\,414\,732\,678\,\beta^{28}}{1\,671\,525\,\pi}+\frac{18\,889\,758\,451\,217\,\beta^{30}}{4\,680\,270\,\pi}-\frac{1\,928\,315\,915\,621\,\beta^{32}}{1\,560\,090\,\pi}+\frac{669\,607\,505\,839\,\beta^{34}}{2\,163\,150\,\pi}-\frac{16\,134\,116\,587\,913\,\beta^{36}}{257\,414\,850\,\pi}+\frac{1\,731\,780\,915\,059\,\beta^{38}}{171\,609\,900\,\pi}-\frac{81\,337\,126\,\beta^{40}}{64\,515\,\pi}+\frac{8\,489\,258\,\beta^{42}}{72\,105\,\pi}-\frac{6\,501\,872\,\beta^{44}}{841\,225\,\pi}+\frac{14\,079\,\beta^{46}}{44\,275\,\pi}-\frac{39\,\beta^{48}}{6325\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{400}{\pi}+\frac{156\,000\,\beta^2}{\pi}+\frac{6\,458\,400\,\beta^4}{\pi}+\frac{41\,441\,400\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(21,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{14\,737\,\beta^2}{\pi}+\frac{44\,285\,486\,\beta^4}{15\,\pi}+\frac{1\,459\,600\,312\,\beta^6}{15\,\pi}+\frac{23\,710\,338\,749\,\beta^8}{35\,\pi}+\frac{38\,225\,843\,485\,\beta^{10}}{63\,\pi}-\frac{4\,262\,725\,247\,015\,\beta^{12}}{9009\,\pi}+\frac{20\,277\,115\,514\,\beta^{14}}{39\,\pi}-\frac{10\,467\,828\,908\,989\,\beta^{16}}{18\,018\,\pi}+\frac{26\,033\,031\,047\,093\,\beta^{18}}{43\,758\,\pi}-\frac{24\,728\,641\,642\,555\,\beta^{20}}{46\,189\,\pi}+\frac{402\,840\,543\,720\,040\,\beta^{22}}{969\,969\,\pi}-\frac{61\,354\,531\,630\,852\,337\,\beta^{24}}{223\,092\,870\,\pi}+\frac{884\,186\,595\,951\,661\,\beta^{26}}{5\,720\,330\,\pi}-\frac{23\,476\,824\,525\,961\,\beta^{28}}{319\,770\,\pi}+\frac{68\,676\,703\,854\,509\,\beta^{30}}{2\,340\,135\,\pi}-\frac{2\,003\,835\,313\,\beta^{32}}{204\,\pi}+\frac{8\,045\,232\,213\,335\,\beta^{34}}{2\,941\,884\,\pi}-\frac{1\,468\,729\,765\,127\,\beta^{36}}{2\,340\,135\,\pi}+\frac{256\,497\,328\,706\,\beta^{38}}{2\,187\,185\,\pi}-\frac{3\,911\,203\,048\,729\,\beta^{40}}{223\,092\,870\,\pi}+\frac{6\,516\,893\,419\,\beta^{42}}{3\,187\,041\,\pi}-\frac{20\,621\,193\,\beta^{44}}{115\,115\,\pi}+\frac{692\,394\,\beta^{46}}{62\,491\,\pi}-\frac{14\,181\,\beta^{48}}{32\,890\,\pi}+\frac{261\,\beta^{50}}{32\,890\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{520}{\pi}-\frac{351\,000\,\beta^2}{\pi}-\frac{27\,518\,400\,\beta^4}{\pi}-\frac{437\,018\,400\,\beta^6}{\pi}-\frac{1\,442\,160\,720\,\beta^8}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(23,25,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{1081\,\beta^2}{3\,\pi}-\frac{10\,879\,\beta^4}{3\,\pi}+\frac{294\,239\,\beta^6}{10\,\pi}-\frac{5\,720\,077\,\beta^8}{35\,\pi}+\frac{133\,633\,289\,\beta^{10}}{210\,\pi}-\frac{832\,047\,563\,\beta^{12}}{462\,\pi}+\frac{15\,300\,552\,959\,\beta^{14}}{4004\,\pi}-\frac{13\,361\,207\,702\,\beta^{16}}{2145\,\pi}+\frac{289\,840\,926\,292\,\beta^{18}}{36\,465\,\pi}-\frac{1\,859\,871\,787\,112\,\beta^{20}}{230\,945\,\pi}+\frac{2\,116\,606\,885\,566\,\beta^{22}}{323\,323\,\pi}-\frac{2\,906\,901\,641\,330\,\beta^{24}}{676\,039\,\pi}+\frac{23\,237\,825\,059\,906\,\beta^{26}}{10\,140\,585\,\pi}-\frac{773\,896\,510\,976\,\beta^{28}}{780\,045\,\pi}+\frac{38\,815\,059\,301\,\beta^{30}}{111\,435\,\pi}-\frac{732\,918\,335\,\beta^{32}}{7429\,\pi}+\frac{5\,474\,889\,697\,\beta^{34}}{245\,157\,\pi}-\frac{2\,008\,902\,829\,\beta^{36}}{504\,735\,\pi}+\frac{550\,892\,539\,\beta^{38}}{1\,009\,470\,\pi}-\frac{1\,474\,721\,\beta^{40}}{26\,565\,\pi}+\frac{13\,969\,\beta^{42}}{3542\,\pi}-\frac{265\,\beta^{44}}{1518\,\pi}+\frac{\beta^{46}}{276\,\pi}\right)-\frac{24\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(23,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{2033\,\beta^2}{\pi}-\frac{399\,188\,\beta^4}{15\,\pi}+\frac{1\,671\,824\,\beta^6}{15\,\pi}-\frac{17\,404\,882\,\beta^8}{35\,\pi}+\frac{112\,346\,881\,\beta^{10}}{63\,\pi}-\frac{3\,426\,616\,199\,\beta^{12}}{693\,\pi}+\frac{53\,245\,407\,169\,\beta^{14}}{5005\,\pi}-\frac{1\,619\,407\,301\,921\,\beta^{16}}{90\,090\,\pi}+\frac{2\,642\,197\,726\,391\,\beta^{18}}{109\,395\,\pi}-\frac{3\,615\,026\,716\,927\,\beta^{20}}{138\,567\,\pi}+\frac{22\,163\,631\,424\,741\,\beta^{22}}{969\,969\,\pi}-\frac{18\,217\,097\,544\,694\,579\,\beta^{24}}{1\,115\,464\,350\,\pi}+\frac{161\,645\,861\,521\,782\,\beta^{26}}{16\,900\,975\,\pi}-\frac{107\,597\,988\,829\,259\,\beta^{28}}{23\,401\,350\,\pi}+\frac{8\,487\,536\,678\,749\,\beta^{30}}{4\,680\,270\,\pi}-\frac{86\,908\,423\,339\,\beta^{32}}{148\,580\,\pi}+\frac{5\,637\,881\,933\,851\,\beta^{34}}{36\,773\,550\,\pi}-\frac{4\,159\,766\,636\,288\,\beta^{36}}{128\,707\,425\,\pi}+\frac{13\,612\,875\,076\,\beta^{38}}{2\,523\,675\,\pi}-\frac{351\,292\,208\,\beta^{40}}{504\,735\,\pi}+\frac{1\,777\,613\,\beta^{42}}{26\,565\,\pi}-\frac{199\,701\,\beta^{44}}{44\,275\,\pi}+\frac{3607\,\beta^{46}}{18\,975\,\pi}-\frac{13\,\beta^{48}}{3450\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{200}{\pi}+\frac{15\,600\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(23,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{15\,535\,\beta^2}{3\,\pi}+\frac{905\,384\,\beta^4}{3\,\pi}+\frac{1\,306\,676\,\beta^6}{\pi}-\frac{20\,205\,086\,\beta^8}{7\,\pi}+\frac{165\,508\,391\,\beta^{10}}{21\,\pi}-\frac{57\,940\,031\,515\,\beta^{12}}{3003\,\pi}+\frac{39\,383\,733\,520\,\beta^{14}}{1001\,\pi}-\frac{394\,247\,155\,985\,\beta^{16}}{6006\,\pi}+\frac{1\,304\,782\,559\,155\,\beta^{18}}{14\,586\,\pi}-\frac{4\,614\,581\,118\,755\,\beta^{20}}{46\,189\,\pi}+\frac{29\,698\,015\,573\,090\,\beta^{22}}{323\,323\,\pi}-\frac{1\,038\,081\,919\,439\,183\,\beta^{24}}{14\,872\,858\,\pi}+\frac{3\,772\,345\,905\,791\,963\,\beta^{26}}{85\,804\,950\,\pi}-\frac{9\,438\,043\,421\,921\,\beta^{28}}{410\,550\,\pi}+\frac{38\,911\,767\,957\,254\,\beta^{30}}{3\,900\,225\,\pi}-\frac{532\,767\,488\,421\,\beta^{32}}{148\,580\,\pi}+\frac{226\,495\,824\,619\,\beta^{34}}{213\,180\,\pi}-\frac{11\,052\,633\,237\,262\,\beta^{36}}{42\,902\,475\,\pi}+\frac{28\,193\,492\,199\,308\,\beta^{38}}{557\,732\,175\,\pi}-\frac{259\,031\,271\,448\,\beta^{40}}{32\,807\,775\,\pi}+\frac{2\,095\,221\,043\,\beta^{42}}{2\,187\,185\,\pi}-\frac{30\,036\,709\,\beta^{44}}{345\,345\,\pi}+\frac{1\,370\,912\,\beta^{46}}{246\,675\,\pi}-\frac{1593\,\beta^{48}}{7150\,\pi}+\frac{63\,\beta^{50}}{14\,950\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{312}{\pi}-\frac{70\,200\,\beta^2}{\pi}-\frac{1\,310\,400\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(23,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{10\,095\,\beta^2}{\pi}-\frac{1\,311\,473\,\beta^4}{\pi}-\frac{47\,705\,017\,\beta^6}{2\,\pi}-\frac{2\,952\,198\,626\,\beta^8}{63\,\pi}+\frac{3\,972\,964\,892\,\beta^{10}}{63\,\pi}-\frac{26\,440\,771\,250\,\beta^{12}}{231\,\pi}+\frac{164\,659\,332\,545\,\beta^{14}}{819\,\pi}-\frac{400\,639\,465\,255\,\beta^{16}}{1287\,\pi}+\frac{1\,000\,281\,912\,620\,\beta^{18}}{2431\,\pi}-\frac{63\,603\,699\,796\,460\,\beta^{20}}{138\,567\,\pi}+\frac{835\,362\,339\,528\,085\,\beta^{22}}{1\,939\,938\,\pi}-\frac{2\,524\,919\,700\,160\,861\,\beta^{24}}{7\,436\,429\,\pi}+\frac{1\,129\,784\,759\,772\,731\,122\,\beta^{26}}{5\,019\,589\,575\,\pi}-\frac{48\,436\,020\,809\,482\,987\,\beta^{28}}{386\,122\,275\,\pi}+\frac{196\,356\,459\,086\,003\,\beta^{30}}{3\,343\,050\,\pi}-\frac{544\,145\,868\,257\,\beta^{32}}{23\,598\,\pi}+\frac{83\,435\,060\,517\,668\,\beta^{34}}{11\,032\,065\,\pi}-\frac{8\,036\,804\,035\,513\,\beta^{36}}{3\,900\,225\,\pi}+\frac{238\,110\,003\,152\,183\,\beta^{38}}{514\,829\,700\,\pi}-\frac{141\,380\,942\,632\,142\,\beta^{40}}{1\,673\,196\,525\,\pi}+\frac{81\,047\,916\,344\,\beta^{42}}{6\,561\,555\,\pi}-\frac{516\,854\,966\,\beta^{44}}{366\,795\,\pi}+\frac{268\,164\,287\,\beta^{46}}{2\,220\,075\,\pi}-\frac{5\,412\,637\,\beta^{48}}{740\,025\,\pi}+\frac{618\,947\,\beta^{50}}{2\,220\,075\,\pi}-\frac{203\,\beta^{52}}{40\,365\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{432}{\pi}+\frac{196\,560\,\beta^2}{\pi}+\frac{9\,500\,400\,\beta^4}{\pi}+\frac{71\,253\,000\,\beta^6}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(25,27,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{425\,\beta^2}{\pi}-\frac{15\,020\,\beta^4}{3\,\pi}+\frac{143\,336\,\beta^6}{3\,\pi}-\frac{2\,189\,462\,\beta^8}{7\,\pi}+\frac{90\,658\,571\,\beta^{10}}{63\,\pi}-\frac{43\,489\,847\,965\,\beta^{12}}{9009\,\pi}+\frac{36\,599\,918\,975\,\beta^{14}}{3003\,\pi}-\frac{61\,132\,465\,325\,\beta^{16}}{2574\,\pi}+\frac{797\,114\,509\,340\,\beta^{18}}{21\,879\,\pi}-\frac{2\,063\,441\,659\,595\,\beta^{20}}{46\,189\,\pi}+\frac{42\,971\,129\,400\,665\,\beta^{22}}{969\,969\,\pi}-\frac{145\,371\,671\,794\,807\,\beta^{24}}{4\,056\,234\,\pi}+\frac{30\,936\,273\,573\,481\,\beta^{26}}{1\,300\,075\,\pi}-\frac{304\,568\,224\,900\,549\,\beta^{28}}{23\,401\,350\,\pi}+\frac{19\,630\,317\,586\,519\,\beta^{30}}{3\,343\,050\,\pi}-\frac{973\,123\,888\,871\,\beta^{32}}{445\,740\,\pi}+\frac{2\,450\,831\,008\,103\,\beta^{34}}{3\,677\,355\,\pi}-\frac{1\,256\,306\,463\,536\,\beta^{36}}{7\,571\,025\,\pi}+\frac{364\,588\,704\,836\,\beta^{38}}{10\,935\,925\,\pi}-\frac{9\,184\,398\,464\,\beta^{40}}{1\,726\,725\,\pi}+\frac{227\,189\,647\,\beta^{42}}{345\,345\,\pi}-\frac{999\,533\,\beta^{44}}{16\,445\,\pi}+\frac{88\,489\,\beta^{46}}{22\,425\,\pi}-\frac{313\,\beta^{48}}{1950\,\pi}+\frac{\beta^{50}}{325\,\pi}\right)-\frac{26\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(25,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{7127\,\beta^2}{3\,\pi}-\frac{109\,720\,\beta^4}{3\,\pi}+\frac{177\,892\,\beta^6}{\pi}-\frac{58\,495\,762\,\beta^8}{63\,\pi}+\frac{246\,088\,063\,\beta^{10}}{63\,\pi}-\frac{2\,943\,640\,993\,\beta^{12}}{231\,\pi}+\frac{291\,607\,863\,710\,\beta^{14}}{9009\,\pi}-\frac{166\,886\,198\,755\,\beta^{16}}{2574\,\pi}+\frac{45\,870\,548\,755\,\beta^{18}}{442\,\pi}-\frac{18\,611\,692\,991\,875\,\beta^{20}}{138\,567\,\pi}+\frac{137\,667\,069\,197\,500\,\beta^{22}}{969\,969\,\pi}-\frac{1\,835\,106\,843\,634\,249\,\beta^{24}}{14\,872\,858\,\pi}+\frac{80\,997\,151\,758\,368\,777\,\beta^{26}}{912\,652\,650\,\pi}-\frac{3\,721\,795\,172\,964\,173\,\beta^{28}}{70\,204\,050\,\pi}+\frac{44\,042\,071\,401\,011\,\beta^{30}}{1\,671\,525\,\pi}-\frac{218\,535\,310\,727\,941\,\beta^{32}}{20\,058\,300\,\pi}+\frac{165\,038\,093\,253\,037\,\beta^{34}}{44\,128\,260\,\pi}-\frac{45\,516\,747\,673\,924\,\beta^{36}}{42\,902\,475\,\pi}+\frac{1\,868\,903\,489\,612\,\beta^{38}}{7\,571\,025\,\pi}-\frac{416\,762\,128\,504\,\beta^{40}}{8\,947\,575\,\pi}+\frac{12\,104\,642\,681\,\beta^{42}}{1\,726\,725\,\pi}-\frac{364\,600\,157\,\beta^{44}}{444\,015\,\pi}+\frac{160\,080\,226\,\beta^{46}}{2\,220\,075\,\pi}-\frac{600\,563\,\beta^{48}}{134\,550\,\pi}+\frac{3047\,\beta^{50}}{17\,550\,\pi}-\frac{28\,\beta^{52}}{8775\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{216}{\pi}+\frac{19\,656\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(25,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{18\,037\,\beta^2}{3\,\pi}+\frac{1\,223\,135\,\beta^4}{3\,\pi}+\frac{28\,996\,227\,\beta^6}{14\,\pi}-\frac{36\,950\,602\,\beta^8}{7\,\pi}+\frac{117\,447\,798\,\beta^{10}}{7\,\pi}-\frac{3\,694\,718\,344\,\beta^{12}}{77\,\pi}+\frac{16\,399\,602\,600\,\beta^{14}}{143\,\pi}-\frac{32\,187\,834\,265\,\beta^{16}}{143\,\pi}+\frac{881\,045\,699\,135\,\beta^{18}}{2431\,\pi}-\frac{155\,413\,718\,025\,575\,\beta^{20}}{323\,323\,\pi}+\frac{13\,130\,629\,020\,875\,\beta^{22}}{24\,871\,\pi}-\frac{3\,589\,207\,359\,388\,503\,\beta^{24}}{7\,436\,429\,\pi}+\frac{205\,693\,078\,837\,907\,891\,\beta^{26}}{557\,732\,175\,\pi}-\frac{223\,207\,380\,084\,946\,\beta^{28}}{944\,775\,\pi}+\frac{212\,441\,307\,086\,054\,\beta^{30}}{1\,671\,525\,\pi}-\frac{927\,483\,238\,627\,\beta^{32}}{16\,150\,\pi}+\frac{1\,120\,638\,871\,766\,443\,\beta^{34}}{51\,482\,970\,\pi}-\frac{1\,775\,658\,286\,576\,001\,\beta^{36}}{257\,414\,850\,\pi}+\frac{155\,972\,253\,363\,079\,\beta^{38}}{85\,804\,950\,\pi}-\frac{682\,138\,933\,838\,\beta^{40}}{1\,726\,725\,\pi}+\frac{327\,917\,332\,198\,\beta^{42}}{4\,686\,825\,\pi}-\frac{97\,946\,044\,\beta^{44}}{9867\,\pi}+\frac{814\,325\,318\,\beta^{46}}{740\,025\,\pi}-\frac{36\,566\,489\,\beta^{48}}{398\,475\,\pi}+\frac{283\,172\,\beta^{50}}{52\,325\,\pi}-\frac{4118\,\beta^{52}}{20\,475\,\pi}+\frac{29\,\beta^{54}}{8190\,\pi}\right)+\frac{1}{4}\beta^2\left(-\frac{336}{\pi}-\frac{87\,696\,\beta^2}{\pi}-\frac{1\,900\,080\,\beta^4}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(27,29,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{495\,\beta^2}{\pi}-\frac{6747\,\beta^4}{\pi}+\frac{1\,047\,189\,\beta^6}{14\,\pi}-\frac{3\,988\,686\,\beta^8}{7\,\pi}+\frac{64\,190\,516\,\beta^{10}}{21\,\pi}-\frac{2\,768\,627\,530\,\beta^{12}}{231\,\pi}+\frac{5\,072\,957\,510\,\beta^{14}}{143\,\pi}-\frac{34\,893\,386\,365\,\beta^{16}}{429\,\pi}+\frac{1\,075\,232\,253\,890\,\beta^{18}}{7293\,\pi}-\frac{69\,417\,562\,928\,160\,\beta^{20}}{323\,323\,\pi}+\frac{82\,242\,889\,386\,715\,\beta^{22}}{323\,323\,\pi}-\frac{167\,372\,175\,421\,039\,\beta^{24}}{676\,039\,\pi}+\frac{3\,370\,365\,964\,081\,534\,\beta^{26}}{16\,900\,975\,\pi}-\frac{670\,075\,389\,416\,819\,\beta^{28}}{5\,014\,575\,\pi}+\frac{374\,752\,002\,223\,523\,\beta^{30}}{5\,014\,575\,\pi}-\frac{23\,356\,825\,990\,807\,\beta^{32}}{668\,610\,\pi}+\frac{1\,053\,479\,037\,534\,449\,\beta^{34}}{77\,224\,455\,\pi}-\frac{100\,825\,401\,011\,849\,\beta^{36}}{22\,713\,075\,\pi}+\frac{6\,045\,592\,288\,721\,\beta^{38}}{5\,047\,350\,\pi}-\frac{1\,377\,421\,310\,926\,\beta^{40}}{5\,180\,175\,\pi}+\frac{7\,105\,225\,664\,\beta^{42}}{148\,005\,\pi}-\frac{341\,939\,822\,\beta^{44}}{49\,335\,\pi}+\frac{157\,554\,628\,\beta^{46}}{201\,825\,\pi}-\frac{4\,057\,541\,\beta^{48}}{61\,425\,\pi}+\frac{80\,839\,\beta^{50}}{20\,475\,\pi}-\frac{365\,\beta^{52}}{2457\,\pi}+\frac{\beta^{54}}{378\,\pi}\right)-\frac{28\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$

G(27,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(-\frac{4}{\pi}-\frac{2745\,\beta^2}{\pi}-\frac{49\,098\,\beta^4}{\pi}+\frac{274\,404\,\beta^6}{\pi}-\frac{11\,592\,789\,\beta^8}{7\,\pi}+\frac{169\,563\,589\,\beta^{10}}{21\,\pi}-\frac{7\,068\,132\,875\,\beta^{12}}{231\,\pi}+\frac{90\,616\,355\,880\,\beta^{14}}{1001\,\pi}-\frac{16\,526\,420\,345\,\beta^{16}}{78\,\pi}+\frac{5\,802\,123\,342\,095\,\beta^{18}}{14\,586\,\pi}-\frac{28\,015\,769\,975\,695\,\beta^{20}}{46\,189\,\pi}+\frac{1\,110\,495\,301\,210\,\beta^{22}}{1463\,\pi}-\frac{11\,694\,272\,222\,514\,047\,\beta^{24}}{14\,872\,858\,\pi}+\frac{22\,942\,188\,531\,886\,627\,\beta^{26}}{33\,801\,950\,\pi}-\frac{12\,986\,488\,267\,779\,075\,943\,\beta^{28}}{26\,466\,926\,850\,\pi}+\frac{43\,348\,314\,438\,347\,318\,\beta^{30}}{145\,422\,675\,\pi}-\frac{394\,143\,772\,236\,883\,\beta^{32}}{2\,585\,292\,\pi}+\frac{3\,653\,392\,532\,961\,571\,\beta^{34}}{55\,639\,980\,\pi}-\frac{266\,273\,261\,724\,921\,898\,\beta^{36}}{11\,197\,545\,975\,\pi}+\frac{144\,058\,881\,880\,684\,\beta^{38}}{19\,959\,975\,\pi}-\frac{5\,210\,846\,921\,649\,529\,\beta^{40}}{2\,854\,276\,425\,\pi}+\frac{11\,466\,665\,876\,387\,\beta^{42}}{30\,045\,015\,\pi}-\frac{93\,207\,237\,667\,\beta^{44}}{1\,430\,715\,\pi}+\frac{574\,615\,022\,648\,\beta^{46}}{64\,382\,175\,\pi}-\frac{861\,727\,091\,\beta^{48}}{900\,450\,\pi}+\frac{10\,202\,347\,\beta^{50}}{131\,950\,\pi}-\frac{1\,576\,258\,\beta^{52}}{356\,265\,\pi}+\frac{11\,384\,\beta^{54}}{71\,253\,\pi}-\frac{5\,\beta^{56}}{1827\,\pi}\right)+\frac{1}{4}\beta^2\left(\frac{232}{\pi}+\frac{24\,360\,\beta^2}{\pi}\right)\text{ArcCos}\left[\frac{\beta}{2}\right]$$

G(29,31,0;β}

$$\frac{1}{2}\beta\sqrt{1-\frac{\beta^2}{4}}\left(\frac{4}{\pi}+\frac{1711\,\beta^2}{3\,\pi}-\frac{133\,574\,\beta^4}{15\,\pi}+\frac{567\,414\,\beta^6}{5\,\pi}-\frac{34\,828\,391\,\beta^8}{35\,\pi}+\frac{43\,079\,790\,\beta^{10}}{7\,\pi}-\frac{2\,146\,390\,195\,\beta^{12}}{77\,\pi}+\frac{95\,630\,973\,591\,\beta^{14}}{1001\,\pi}-\frac{72\,744\,133\,223\,\beta^{16}}{286\,\pi}+\frac{1\,305\,838\,758\,416\,\beta^{18}}{2431\,\pi}-\frac{42\,261\,812\,089\,205\,\beta^{20}}{46\,189\,\pi}+\frac{411\,845\,048\,610\,005\,\beta^{22}}{323\,323\,\pi}-\frac{9\,901\,377\,738\,530\,319\,\beta^{24}}{6\,760\,390\,\pi}+\frac{14\,220\,609\,903\,596\,387\,\beta^{26}}{10\,140\,585\,\pi}-\frac{5\,266\,003\,632\,137\,771\,\beta^{28}}{4\,680\,270\,\pi}+\frac{14\,734\,282\,346\,203\,381\,\beta^{30}}{19\,389\,690\,\pi}-\frac{1\,120\,176\,716\,388\,677\,\beta^{32}}{2\,585\,292\,\pi}+\frac{22\,274\,730\,201\,408\,007\,\beta^{34}}{106\,643\,295\,\pi}-\frac{747\,506\,809\,997\,830\,\beta^{36}}{8\,782\,389\,\pi}+\frac{428\,380\,566\,729\,398\,\beta^{38}}{14\,637\,315\,\pi}-\frac{28\,243\,603\,249\,457\,\beta^{40}}{3\,338\,335\,\pi}+\frac{4\,094\,541\,240\,068\,\beta^{42}}{2\,003\,001\,\pi}-\frac{117\,113\,949\,629\,\beta^{44}}{286\,143\,\pi}+\frac{26\,172\,121\,993\,\beta^{46}}{390\,195\,\pi}-\frac{299\,999\,641\,\beta^{48}}{33\,930\,\pi}+\frac{36\,184\,189\,\beta^{50}}{39\,585\,\pi}-\frac{1\,694\,422\,\beta^{52}}{23\,751\,\pi}+\frac{36\,086\,\beta^{54}}{9135\,\pi}-\frac{421\,\beta^{56}}{3045\,\pi}+\frac{\beta^{58}}{435\,\pi}\right)-\frac{30\,\beta^2\,\text{ArcCos}\left[\frac{\beta}{2}\right]}{\pi}$$