Satz

Für $k \geqq 3$ ist $j(k,m,f) = \sum_{\nu=1}^{5} j_\nu(k,m,f)$, wobei :

$$j_1(k,m,f) = \frac{2k-3}{24}\; a(m) \sum_{t \| m} t \mu_f\left(\frac{m}{t}\right)$$

$$j_2(k,m,f) = \frac{(-1)^k}{2} \left(\frac{8}{2k-1}\right) \times \begin{cases} 0 & \text{falls } m \text{ ungerade} \\ a(m) \sum_{t \| m} \left(\frac{-4}{t}\right) \mu_f(t) & \text{falls } m \text{ gerade} \end{cases}$$

$$j_3(k,m,f) = \frac{(-1)^k}{3} \left\{ \left(\frac{k}{3}\right) + j_3^{!}(k,m,f) \right\} a(m) \sum_{t \| m} \left(\frac{t}{3}\right) \mu_f(t)$$

und $j_3^{!}(k,m,t) = 0$ falls $3 \nmid m$,

bzw. falls $3^r | m$, $r > 1$, $(3^r, m/3^r) = 1$, dann

$$j_3^{!}(k,m,t) = 3^{[r/2]} \left(\frac{m/3^r}{3^r}\right) \mu_f(3) \times \begin{cases} \left(\frac{k}{3}\right) & \text{falls } r \text{ gerade} \\ 2 & \text{falls } r \text{ ungerade.} \,\&\, 3 | k \\ 1 & \text{sonst} \end{cases}$$

$$j_4(m,f) = -\frac{1}{2}\, a(m) \sum_{t \| m} Q(t) \mu_f\left(\frac{m}{t}\right) \times \begin{cases} 2 & \text{falls } 4 | m/t \\ 1 & \text{falls } 4 \nmid m/t \end{cases}$$

$$j_5(m,f) = a(m) \sum_{t \| m} \mu_f(t) \sum_{\substack{\sigma \bmod 2m \\ \sigma \equiv 0 \bmod t}} \left(\left(\frac{\sigma^2}{4m}\right)\right)$$

$$\left(= -\frac{1}{2} \sum_{d | 4m} h^{!}(-d)\; a(m) \sum_{t \| m} \left(\frac{-d}{t}\right) \times \begin{cases} 2 \left(\frac{-d}{2}\right) & \text{falls } t \equiv 2 \bmod 4 \\ 4 & \text{falls } t \equiv 0 \bmod 4 \\ 1 & \text{falls } t \text{ ungerade} \end{cases} \right)$$