- $$\frac{c_{24}(\log n)^3 \cdot (N+1)^d \cdot (M_n+1)^d}{n} \leq C_0 (\log n)^3 \cdot \frac{(c_5 n^{1/2p+d}+2)^d}{n}$$

$$\overset{n \text{ suff. large}}{\leq} C_1 \cdot (\log n)^3 \cdot \frac{c_5^d n^{d/2p+d}}{n}$$

$$= C_2 \cdot (\log n)^3 \cdot n^{\frac{d}{2p+d}-1} = C_2 \cdot \log n^3 \, {}^{-\frac{2p}{2p+d}}$$

- $$2 \cdot c_{21} \cdot \frac{(M_n+1)^d}{n} \overset{\text{s.o.}}{\leq} C_0^* \cdot \frac{n^{\frac{d}{2p+d}}}{n} = C_0^* \cdot n^{-\frac{2p}{2p+d}} \overset{\text{für } n \text{ suff. large}}{\leq} C_0^* (\log n)^3 n^{-\frac{2p}{2p+d}}$$

- $$\left(c_{26} \cdot \log(n) \cdot \frac{1}{M_n^p}\right)^2 \leq C_0^\Delta \cdot \log n^2 \, c_5^{\frac{1}{2p}} \cdot n^{-\frac{2p}{2p+d}} \leq C_1^\Delta \cdot (\log n)^2 n^{-\frac{2p}{2p+d}}$$

$$\leq C_1^\Delta \cdot (\log n)^3 n^{-\frac{2p}{2p+d}}$$

$$\left((M_n+1)^d \cdot (q+1)^d \cdot c_{25} \cdot \log n \cdot \frac{M_n^3}{R_n}\right)^2$$

$$\leq C_0^\square (M_n+1)^{2d} \cdot (\log n)^2 \cdot \frac{M_n^6}{R_n^2} \leq C_0^\square \frac{(M_n+1)^{8d}}{R_n^2} (\log n)^2 \leq C_1^\square \frac{n^{\frac{8d}{2p+d}}}{n^{2d+8}} \log n^2$$

$M_n \leq M_n+1$
$6 \leq 6d$
$M_n \geq 1$ für n großgenug.

$$= C_1^\square \cdot n^{\frac{8d}{2p+d} - 2d - 8} \cdot \log n^2$$

$$\leq C_1^\square \cdot n^{\frac{8d}{2p+d} - 8\frac{2p+d}{2p+d}} \cdot \log n^2$$

$$= C_1^\square \cdot n^{-\frac{16p}{2p+d}} \cdot \log n^2$$

$$\frac{1}{n^{\frac{16p}{2p+d}}} \leq \frac{1}{n^{\frac{2p}{2p+d}}}$$

$$\leq C_1^\square \cdot n^{-\frac{2p}{2p+d}} \cdot \log n^3 .$$

, da $\frac{16p}{2p+d} > \frac{2p}{2p+d}$

Dann ausklammern & summieren