$$\frac{1}{n!}\frac{d^n}{dt^n}\ln\langle e^{tBH}\rangle = \sum_{i+j=n}\frac{1}{i!\,j!}\frac{d^{i+j}}{dt_1^i\,dt_2^j}\ln\langle e^{B t_1 H_1 + B t_2 H_2}\rangle$$