Table 1. Dependence of R, α_0, β, n_2, $\chi_{eff}^{(3)}$, p, $\chi_m^{(3)}$ and FOM for Ni QDA with different concentration in the intensity of 5.5 GW/cm^2.

Pulses (P)	R (nm)	$\alpha_0 \times 10^2$ (cm^{-1})	$\beta \times 10^3$ (cm/GW)	n_2 (cm^2/GW)	$\chi_{eff}^{(3)}$)$\times 10^{-8}$ (esu)	p (%)	$\chi_m^{(3)} \times 10^{-7}$ (esu)	FOM$\times 10^{-10}$ (esu.cm)
100	13	4.71	8.85	-0.164	-2.02	1.68	-2.43	5.16
200	11	6.95	8.54	-0.095	-1.16	2.13	-1.11	1.59
300	10	7.54	6.34	-0.062	-0.76	2.42	-0.64	0.85
400	8	8.49	-3.70	0.033	0.41	3.23	0.26	0.30
500	7	9.07	-4.61	0.052	0.64	3.79	0.34	0.37
800	4	10.36	-4.71	0.186	2.23	6.73	0.68	0.66

Table 2. Values of α_0, p, $\left|\chi_{eff}^{(3)}\right|$, FOM of several representative nonlinear optical materials.

Metal QDA/matrix	α_0 (cm^{-1})	p (%)	$\left|\chi_{eff}^{(3)}\right|$ (esu)	FOM (esu.cm)	References
Pure BTO		-	1.1×10^{-12}	-	35
Ni/BTO	$\sim10^{2}$	<7	$\sim10^{-8}$	$\sim10^{-10}$	This work
Ce/BTO	-	-	2.21×10^{-8}	-	34
Au/BTO	-	-	7.8×10^{-11}	-	35
Fe/BTO	-	-	7.18×10^{-7}	-	36
Rh/BTO	-	-	5.71×10^{-7}	-	37
Ag/Bi_2O_3	$\sim10^{5}$	35.7	5.71×10^{-10}	$\sim10^{-15}$	12
Cu/Al_2O_3	$\sim10^{5}$	20	1.8×10^{-7}	$\sim10^{-12}$	7
Au/SiO_2	10^{4}-10^{5}	40	2.5×10^{-6}	1.1×10^{-11}	10
Au/Al_2O_3	$\sim10^{6}$	45	1.2×10^{-6}	1.1×10^{-12}	9
Au/BTO	10.5×10^{4}	14 at.	$\sim10^{-6}$	4.72×10^{-11}	20
Au+Fe/BTO	$\sim10^{4}$	~14.2 at	$\sim10^{-6}$	$\sim10^{-10}$	20
$Au/TiO_2/SiO_2$	$\sim10^{6}$	-	$\sim10^{-6}$	$\sim10^{-12}$	11