Some APN functions CCZ-equivalent to Gold functions and EA-inequivalent to power functions over $\mathbb{F}_{2^n}$ (costructed in [1])

Functions	Conditions	d°
$x^{2^i+1} + (x^{2^i} + x + \mathrm{tr}_n(1) + 1)\mathrm{tr}(x^{2^i+1} + x\ \mathrm{tr}_n(1))$	$n \geq 4$ $\gcd(i, n) = 1$	3
$[x + \mathrm{tr}_{n/3}(x^{2(2^i+1)} + x^{4(2^i+1)}) + \mathrm{tr}(x)\mathrm{tr}_{n/3}(x^{2^i+1} + x^{2^{2i}(2^i+1)})]^{2^i+1}$	$6 \mid n$ $\gcd(i, n) = 1$	4
$x^{2^i+1} + \mathrm{tr}_{n/m}(x^{2^i+1}) + x^{2^i}\mathrm{tr}_{n/m}(x) + x\ \mathrm{tr}_{n/m}(x)^{2^i}$ $+[\mathrm{tr}_{n/m}(x)^{2^i+1} + \mathrm{tr}_{n/m}(x^{2^i+1}) + \mathrm{tr}_{n/m}(x)]^{\frac{1}{2^i+1}}(x^{2^i} + \mathrm{tr}_{n/m}(x)^{2^i} + 1)$ $+[\mathrm{tr}_{n/m}(x)^{2^i+1} + \mathrm{tr}_{n/m}(x^{2^i+1}) + \mathrm{tr}_{n/m}(x)]^{\frac{2^i}{2^i+1}}(x + \mathrm{tr}_{n/m}(x))$	$m \neq n$ n odd $m \mid n$ $\gcd(i, n) = 1$	$m + 2$

References

[1] Lilya Budaghyan, Claude Carlet, and Alexander Pott. New classes of almost bent and almost perfect nonlinear polynomials. *IEEE Transactions on Information Theory*, 52(3):1141–1152, 2006.