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NON-DEGENERATE REAL HYPERSURFACES IN COMPLEX MANIFOLDS ADMITTING LARGE GROUPS OF PSEUDO-CONFORMAL TRANSFORMATIONS II

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Introduction

This is the continuation of our previous paper [3], and will complete, without homogeneity assumption, the classification of non-degenerate real hypersurfaces S of complex manifolds M for which the groups $A(S)$ of pseudo-conformal transformations of S have either the largest dimension $n^2 + 2n$ or the second largest dimension.

Our result is stated as follows

THEOREM 3.4. *Let M be a complex manifold of dimension n, let S be a connected non-degenerate* (*index r*) *hypersurface of M* $\left(0 \leq r \leq \left[\frac{n-1}{2}\right]\right)$. *Assume that $A(S)$ attains the second largest dimension, then we have the following classificationtable*:

(n,r)	$\dim A(S)$	S homogeneous	S inhomogeneous
$n=3$ & $r=1$	$11(=n^2+2)$	$Q_1^*(1)$	
$n=5$ & $r=2$	$26(=n^2+1)$	$Q_2^*(2)$ or Q_2^*	$Q_2\backslash\{\tilde{o}\}$
$n \geq 2$ & $r=0$	n^2+1	Q_0^*	
otherwise	n^2+1	Q_r^*	$Q_r\backslash\{\tilde{o}\}$

$$Q_r = \left\{(z_0, \cdots, z_n) \in P^n(\boldsymbol{C}) \,\middle|\, -\sqrt{-1}z_0\bar{z}_n - \sum_{i=1}^{r} z_i\bar{z}_i + \sum_{i=r+1}^{n-1} z_i\bar{z}_i + \sqrt{-1}z_n\bar{z}_0 = 0\right\},$$

$$Q_r^* = \{(z_0, \cdots, z_n) \in Q_r \,|\, z_0 \neq 0\},$$

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